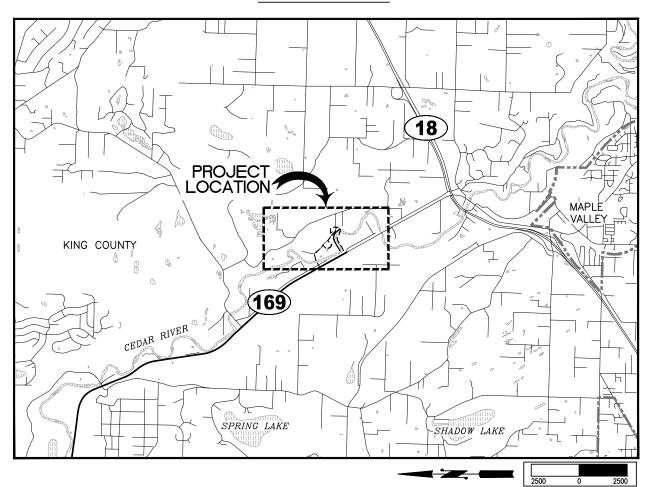
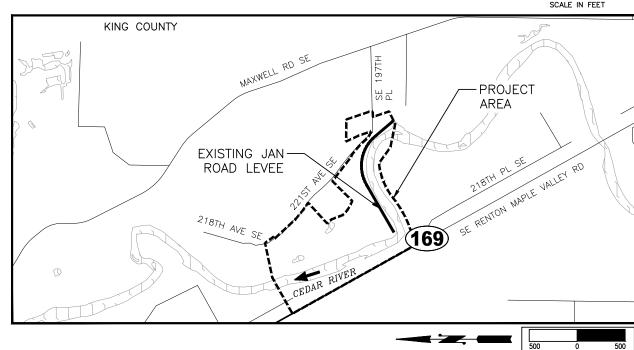
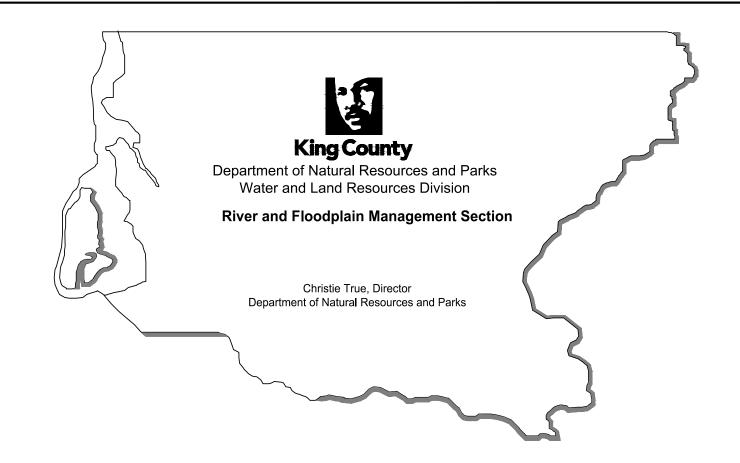
VICINITY MAP







JAN ROAD LEVEE SETBACK PROJECT

CEDAR RIVER, RIVER MILE 12.9 - 13.4 47.427 N. LAT., -122.050 W. LONG.



AT FULL SCALE IF NOT ONE INCH SCALE ACCORDINGLY

Know what's below. Call before you dig.

NUM.	REVISION	BY	DATE				
				APPROVED:_	CHRIS BRUMMER, PE		FUNDING
				PROJECT MANAGER:	DAN HECKENDORF, PE		SOURCE No.
				PROJECT ECOLOGIST:	THOMAS BANNISTER, PWS		PROJECT No. 1131550
-				DESIGNED:	JERRY SCHELLER, PE		
					ALEX BUESCHER, PE		CONTRACT No. E00599E19
NUM.	RECORD CHANGES APPROVED	BY	DATE	REVIEWED:	SELENE FISHER, PE		
				CAD DESIGN:	NADINE STOCK, PE		
				DE0101111	·	·	









King County
Department of Natural Resources and Parks
Water and Land Resources Division River and Floodplain Management Section

JAN ROAD LEVEE SETBACK PROJECT

COVER SHEET AND VICINITY MAP

SHEET

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GENERAL NOTES

- ANY ORDINARY HIGH WATER MARKS AND WETLAND DELINEATIONS SHOWN ON THESE PLANS HAVE BEEN MARKED IN THE FIELD AND REVIEWED BY KING COUNTY PWS. THE FLAGGED LOCATIONS HAVE BEEN LOCATED BY PGS, INC.
- 2. CONTRACTOR SHALL VERIFY EXISTING SITE FEATURES AND DISCUSS POSSIBLE CONSTRUCTION CONFLICTS WITH PROJECT REPRESENTATIVE PRIOR TO START OF WORK.
- 3. CONTRACTOR SHALL SUBMIT FOR APPROVAL A CONSTRUCTION SEQUENCING PLAN 10 DAYS PRIOR TO SITE WORK.
- EQUIPMENT AND MATERIAL STAGING AREAS TO BE LOCATED AS SHOWN ON THE SITE PLAN. EQUIPMENT AND MATERIAL SHALL NOT BE STORED OUTSIDE THE IDENTIFIED STAGING AREA EXTENTS, UNLESS APPROVED BY PROJECT REPRESENTATIVE.
- CONTRACTOR SHALL LIMIT MACHINERY MOVEMENT AND DISTURBANCE TO STAGING AREAS OR TEMPORARY ACCESS CORRIDORS, AS SHOWN ON THE DRAWINGS OR AS APPROVED BY THE PROJECT REPRESENTATIVE.
- 6. CONTRACTOR SHALL PROVIDE 48 HOURS ADVANCE NOTICE TO THE PROJECT REPRESENTATIVE PRIOR TO ANY REQUIRED INSPECTION.
- 7. FIELD VERIFY WITH PROJECT REPRESENTATIVE ALL ELJ AND BRS LOCATIONS, LENGTHS, WIDTHS, AND ELEVATIONS PRIOR TO EXCAVATION, ASSEMBLY, AND INSTALLATION OF EACH STRUCTURE.
- 8. CONTRACTOR SHALL SALVAGE ALL TREES WITH DBH BETWEEN 4 AND 16 INCHES WITHIN CLEARED AREAS FOR USE IN ELJ STRUCTURES AS RACKING. SMALLER VEGETATED DEBRIS IN CLEARED AREA NOT CONTAINING NOXIOUS WEEDS OR INVASIVE PLANTS SHALL BE SALVAGED FOR USE IN ELJ STRUCTURES AS SLASH AS APPROVED BY THE PROJECT REPRESENTATIVE.
- 9. ALL EXISTING SITE FEATURES NOT SPECIFIED FOR REMOVAL SHALL BE PROTECTED DURING CONSTRUCTION.
- 10. EXISTING UTILITIES SHOWN ON SHEET GN5.

ANTICIPATED GENERAL CONSTRUCTION SEQUENCE (CONTRACTOR TO CONSIDER FOR BASELINE CPM SCHEDULE):

- 1. ESTABLISH STABILIZED CONSTRUCTION ENTRANCES PRIOR TO CLEARING AND GRUBBING ACTIVITIES.
- 2. INSTALL HIGH-VISIBILITY FENCING AND FLAGGING.
- 3. ESTABLISH CLEARING LIMITS.
- 4. INSTALL TESC BMPS AS FEASIBLE. BE AWARE THAT SOME TESC BMPS WILL NOT BE POSSIBLE TO INSTALL UNTIL CERTAIN FEATURES ARE CONSTRUCTED.
- 5. PERFORM FLOODPLAIN CLEARING AND GRADING ACTIVITIES.
- 5.1. EXCAVATE THE EXISTING JAN ROAD LEVEE ABOVE THE OHWM. STOCKPILE EXISTING BANK ARMORING MATERIAL ONSITE AS APPROVED BY THE PROJECT REPRESENTATIVE FOR REUSE AS SCOUR COUNTERMEASURES. STOCKPILE ONSITE EXCAVATED LEVEE FILL MATERIAL MEETING THE PROPOSED LEVEE FILL SPECIFICATIONS AND APPROVED BY THE PROJECT REPRESENTATIVE FOR REUSE FOR LEVEE CONSTRUCTION.
- 5.2. EXCAVATE FLOODPLAIN SIDE CHANNEL, INSTALL TEMPORARY BRIDGE, STOCKPILE MATERIALS FOR FLOODPLAIN AND MAINSTEM ELJS, INSTALL SIDE CHANNEL ELJS, AND STABILIZE SIDE CHANNEL SLOPES. RETAIN 20-FOOT LONG NATIVE SOIL BERMS SEPARATING EXCAVATED SIDE CHANNEL FROM CEDAR RIVER AT UPSTREAM AND DOWNSTREAM SIDE CHANNEL CONNECTION.
- CONSTRUCT SETBACK LEVEE AND EXCAVATE AND INSTALL SCOUR COUNTERMEASURES AT THE TOE OF THE SETBACK LEVEE.
- 6. REMOVE RIPRAP FROM EXISTING LEVEE BELOW OHWM AND INSTALL MAIN CHANNEL ELJS DURING IN-WATER WORK.
- 6.1. INSTALL WATER DIVERSION AND WATER MANAGEMENT MEASURES AS NEEDED FOR REMOVAL.
- 6.2. COORDINATE WITH PROJECT REPRESENTATIVE PRIOR TO IN-WATER EXCAVATION. CONSTRUCTION WITHIN ISOLATED WORK AREAS MAY NOT COMMENCE UNTIL THE OWNER HAS COMPLETED ALL FISH
- EXCAVATE THE ARMOR ROCK IN THE REMAINDER OF THE EXISTING LEVEE IN APPROXIMATELY 200 LF INCREMENTS BEGINNING FROM THE UPSTREAM END OF THE PROJECT. RELOCATE WATER DIVERSION AND WATER MANAGEMENT MEASURES AS NEEDED TO ISOLATE THE ARMOR ROCK REMOVAL WORK FROM THE CEDAR RIVER.
- 6.4. INSTALL MAIN CHANNEL ELJS. RELOCATE WATER DIVERSION AND WATER MANAGEMENT MEASURES AS NEEDED TO ISOLATE MAIN CHANNEL ELJ WORK FROM THE CEDAR RIVER.
- 6.5. REMOVE WATER DIVERSION AND WATER MANAGEMENT MEASURES AFTER IN-WATER WORK IS COMPLETE.
- 7 INSTALL THE PRECAST CONCRETE BOX STRUCTURE
- 7.1. ESTABLISH CLEARING LIMITS AND EROSION CONTROL BMPS.
- 7.2. INSTALL WATER DIVERSION MEASURES.
- 7.3. INSTALL TEMPORARY ACCESS ROAD.
- 7.4. INSTALL THE PRECAST CONCRETE BOX STRUCTURE.
- 7.5. REMOVE TEMPORARY ACCESS ROAD.
- 7.6. REMOVE WATER DIVERSION MEASURES.
- 7.7. REMOVE EROSION CONTROL BMPS.
- 8. REMOVE TESC BMPS.
- 9. REMOVE HIGH-VISIBILITY FENCING.
- 10. REMOVE STABILIZED CONSTRUCTION ENTRANCES AND REMAINING DRIVEWAY ASPHALT.
- 11. INSTALL PLANTINGS FOR SITE RESTORATION.



ONE INCH AT FULL SCALE IF NOT ONE INCH SCALE ACCORDINGLY

VERTICAL: NAVD 1988 HORIZONTAL: NAD 1983/1991

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				PROJECT MANAGER:	DAN HECKENDORF, PE	SOURCE No.	
				PROJECT ECOLOGIST:_	THOMAS BANNISTER, PWS	PROJECT No	1131550
				DESIGNED: _	JERRY SCHELLER, PE		
					ALEX BUESCHER, PE	CONTRACT No	E00599E19
NUM.	RECORD CHANGES APPROVED	BY	DATE	REVIEWED:	SELENE FISHER, PE		
				CAD DESIGN	NADINE STOCK, PE		







Christie True, Director

River and Floodplain Management Section

JAN ROAD LEVEE SETBACK PROJECT

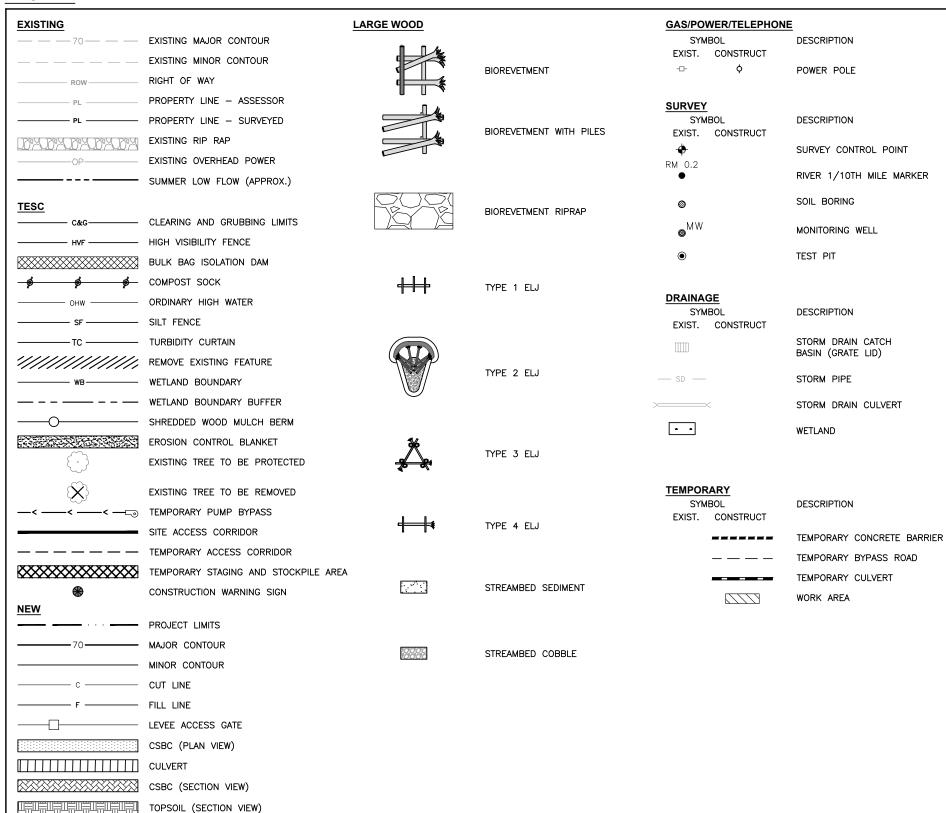
SHEET

NOTES AND SHEET INDEX

SHEETS GN₂

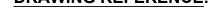
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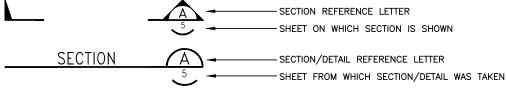
LEGEND



ABBREVIATIONS:

ADDKE	VIATIONS:		
AB AMW ATP AVE B BLDG	ASPECT BORING LOCATION ASPECT MONITORING WELL ASPECT TEST PIT AVENUE BORING LOCATION BUILDING	L LAT LF LE LONG LS	LINE LATITUDE LINEAR FEET LEVEE EXCAVATION LONGITUDE LEVEE SETBACK
BFM BMP(S) BP BRS-R BRS-P	BONDED FIBER MATRIX BEST MANAGEMENT PRACTICE(S) TEMPORARY BYPASS ROAD BIOREVETMENT STRUCTURE — REVETMENT BIOREVETMENT STRUCTURE — PILE	MC MEG MW MUTCD	MAIN CHANNEL MATCH EXISTING GRADE MONITORING WELL MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES
C CF CFS CLV CPE CSBC CSS CSWPPP	CURVE, CUT CUBIC FOOT CUBIC FOOT PER SECOND CULVERT CORRUGATED POLYETHYLENE CRUSHED SURFACING BASE COURSE CHANNEL SPANNING STRUCTURE CONSTRUCTION STORMWATER POLLUTION PREVENTION PLAN	N NAD83 NAVD88 NE NTS NW	NORTH / NORTHING NORTH AMERICAN DATUM, 1983 NORTH AMERICAN VERTICAL DATUM, 1988 NORTHEAST NOT TO SCALE NORTHWEST ON CENTER
CY DBH DIA(M) DWG	CUBIC YARD DIAMETER BREAST HEIGHT DIAMETER DRAWING	OHW OHWM PGS PL PWS	ORDINARY HIGH WATER ORDINARY HIGH WATER MARK PACIFIC GEOMATIC SERVICES PROPERTY LINE/ PLACE PROFESSIONAL WETLAND SCIENTIST
E EG ELEV ELJ ESC EXST	EAST / EASTING EXISTING GROUND ELEVATION ENGINEERED LOG JAM EROSION SEDIMENT CONTROL EXISTING	R RCP RD RM R/W	RADIUS REINFORCED CONCRETE PIPE ROAD RIVER MILE RIGHT OF WAY
FG F FT	FINISHED GRADE FILL FEET	S.R. SC SE STA	STATE ROUTE SIDE CHANNEL SOUTHEAST STATION
GAL GWSE H HPA	GALLON GROUNDWATER SURFACE ELEVATION HORIZONTAL HYDRAULIC PROJECT APPROVAL	STD SW SWDM SWPPP	STANDARD SOUTHWEST SUFFACE WATER DESIGN MANUAL STORMWATER POLLUTION PREVENTION PLAN
ID IE IN INC	IDENTIFIER INVERT ELEVATION INCH INCORPORATED	TBD TESC TP TYP	TO BE DETERMINED TEMPORARY EROSION AND SEDIMENT CONTROL TEST PIT TYP
KCC KCRDCS KCSWDM	KING COUNTY CODE KING COUNTY ROAD DESIGN AND CONSTRUCTION STANDARDS KING COUNTY SURFACE WATER	U.S. V	UNITED STATES VERTICAL
DD AME	DESIGN MANUAL	WAC WDFW WQMP WSDOT WSEL	WASHINGTON ADMINISTRATIVE CODE WASHINGTON DEPARTMENT OF FISH AND WILDLIFE WATER QUALITY MANAGEMENT PLAN WASHINGTON STATE DEPARTMENT OF TRANSPORTATION WATER SURFACE ELEVATION
DKAWIN	IG REFERENCE:	YR	YEAR







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		 		DESIGNED: _	JERRY SCHELLER, PE	
		-		- 1	ALEX BUESCHER, PE	CONTRACT No. E00599E19
NUM.	RECORD CHANGES APPROVED	BY	DATE	REVIEWED:	SELENE FISHER, PE	
		<u> </u>		CAD DESIGN:	NADINE STOCK, PE	

SELECT FILL

CORE FILL







Department of Natural Resources and Parks Water and Land Resources Division River and Floodplain Management Section

Christie True, Director

JAN ROAD LEVEE SETBACK PROJECT

LEGEND AND ABBREVIATIONS

54 SHEETS

SHEET

GN₃

KING COUNTY GENERAL NOTES

- 1. ALL DESIGN AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH PERMIT CONDITIONS, THE KING COUNTY CODE (KCC), THE KING COUNTY ROAD DESIGN AND CONSTRUCTION STANDARDS (KCRDCS), WASHINGTON STATE DOT (WSDOT) STANDARD SPECIFICATIONS AND THE CONDITIONS OF PRELIMINARY APPROVAL. IT SHALL BE THE SOLE RESPONSIBILITY OF THE APPLICANT AND THE PROFESSIONAL CIVIL ENGINEER TO CORRECT ANY ERROR, OMISSION, OR VARIATION FROM THE ABOVE REQUIREMENTS FOUND IN THESE PLANS. ALL CORRECTIONS SHALL BE AT NO ADDITIONAL COST OR LIABILITY TO KING COUNTY.
- 2. THE DESIGN ELEMENTS WITHIN THESE PLANS HAVE BEEN REVIEWED ACCORDING TO THE KING COUNTY DEPARTMENT OF PERMITTING AND ENVIRONMENTAL REVIEW (DPER) ENGINEERING REVIEW CHECKLIST. SOME ELEMENTS MAY HAVE BEEN OVERLOOKED OR MISSED BY THE DPER PLAN REVIEWER. ANY VARIANCE FROM ADOPTED STANDARDS IS NOT ALLOWED UNLESS SPECIFICALLY APPROVED BY KING COUNTY PRIOR TO CONSTRUCTION.
- APPROVAL OF THIS ROAD, GRADING, PARKING AND DRAINAGE PLAN DOES NOT CONSTITUTE AN APPROVAL OF ANY OTHER CONSTRUCTION (E.G. DOMESTIC WATER CONVEYANCE, SEWER CONVEYANCE, GAS, ELECTRICAL, ETC.)
- BEFORE ANY CONSTRUCTION OR DEVELOPMENT ACTIVITY. A PRECONSTRUCTION MEETING MUST BE HELD BETWEEN THE DPER'S DEVELOPMENT INSPECTOR, THE APPLICANT, AND THE APPLICANT'S CONSTRUCTION REPRESENTATIVE.
- 5. A COPY OF THESE APPROVED PLANS MUST BE ON THE JOB SITE WHENEVER CONSTRUCTION IS IN PROGRESS
- 6. GRADING ACTIVITIES (SITE ALTERATION) ARE LIMITED TO THE HOURS OF 7 A.M. TO 7 P.M. MONDAY THROUGH SATURDAY AND 10 A.M. TO 5 P.M. ON SUNDAY, UNLESS OTHERWISE APPROVED WITH A WRITTEN DECISION BY THE REVIEWING AGENCY.
- 7. IT SHALL BE THE APPLICANT'S/CONTRACTOR'S RESPONSIBILITY TO OBTAIN ALL CONSTRUCTION EASEMENTS NECESSARY BEFORE INITIATING OFF-SITE WORK. EASEMENTS REQUIRE REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.
- 8. NOT USED
- 9. DATUM SHALL BE NAVD88 UNLESS OTHERWISE APPROVED BY DPER
- 10. NOT USED
- 11. ALL UTILITY TRENCHES AND ROADWAY SUBGRADE SHALL BE BACKFILLED AND COMPACTED TO 95 PERCENT MAXIMUM DENSITY PER WSDOT STANDARD SPECIFICATIONS 2-03.3(14)D, METHOD C.
- 12. OPEN CUTTING OF EXISTING ROADWAYS FOR NON-FRANCHISED UTILITY OR STORM WORK IS NOT ALLOWED UNLESS SPECIFICALLY APPROVED BY DPER AND NOTED ON THESE APPROVED PLANS. ANY OPEN CUT SHALL BE RESTORED IN ACCORDANCE WITH KCRDCS.
- 13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE SAFEGUARDS, SAFETY DEVICES, PROTECTIVE EQUIPMENT, FLAGGERS, AND ANY OTHER NEEDED ACTIONS TO PROTECT THE LIFE, HEALTH, AND SAFETY OF THE PUBLIC, AND TO PROTECT PROPERTY IN CONNECTION WITH THE PERFORMANCE OF WORK COVERED BY THE CONTRACTOR, ANY WORK WITHIN THE TRAVELED RIGHT-OF-WAY THAT MAY INTERRUPT NORMAL TRAFFIC FLOW SHALL REQUIRE AT LEAST ONE FLAGGER FOR EACH LANE OF TRAFFIC AFFECTED. MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) SHALL APPLY. WORK IN RIGHT-OF-WAY IS NOT AUTHORIZED UNTIL A TRAFFIC CONTROL PLAN IS APPROVED BY KING COUNTY.

KING COUNTY STANDARD EROSION AND SEDIMENTATION CONTROL NOTES

- APPROVAL OF THIS EROSION AND SEDIMENTATION CONTROL (ESC) PLAN DOES NOT CONSTITUTE AN APPROVAL OF PERMANENT ROAD OR DRAINAGE DESIGN (E.G., SIZE AND LOCATION OF ROADS, PIPES, RESTRICTORS, CHANNELS, RETENTION FACILITIES, UTILITIES, ETC.).
- THE IMPLEMENTATION OF THESE ESC PLANS AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT, AND UPGRADING OF THESE ESC FACILITIES IS THE RESPONSIBILITY OF THE APPLICANT/ESC SUPERVISOR UNTIL ALL CONSTRUCTION IS APPROVED.
- 3. THE BOUNDARIES OF THE CLEARING LIMITS SHOWN ON THIS PLAN SHALL BE CLEARLY FLAGGED BY SURVEY TAPE OR FENCING, IF REQUIRED, PRIOR TO CONSTRUCTION (KING COUNTY SWDM APPENDIX D). DURING THE CONSTRUCTION PERIOD, NO DISTURBANCE BEYOND THE CLEARING LIMITS SHALL BE PERMITTED. THE CLEARING LIMITS SHALL BE MAINTAINED BY THE

APPLICANT/ESC SUPERVISOR FOR THE DURATION OF CONSTRUCTION.

- 4. STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED AT THE BEGINNING OF CONSTRUCTION AND MAINTAINED FOR THE DURATION OF THE PROJECT. ADDITIONAL MEASURES, SUCH AS CONSTRUCTED WHEEL WASH SYSTEMS OR WASH PADS, MAY BE REQUIRED TO ENSURE THAT ALL PAVED AREAS ARE KEPT CLEAN AND TRACK OUT TO ROAD RIGHT OF WAY DOES NOT OCCUR FOR THE DURATION OF THE PROJECT.
- 5. THE ESC FACILITIES SHOWN ON THIS PLAN MUST BE CONSTRUCTED PRIOR TO OR IN CONJUNCTION WITH ALL CLEARING AND GRADING SO AS TO ENSURE THAT THE TRANSPORT OF SEDIMENT TO SURFACE WATERS, DRAINAGE SYSTEMS, FLOW CONTROL BMP LOCATIONS (EXISTING AND PROPOSED), AND ADJACENT PROPERTIES IS MINIMIZED.
- THE ESC FACILITIES SHOWN ON THIS PLAN ARE THE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, THESE ESC FACILITIES SHALL BE UPGRADED AS NEEDED FOR UNEXPECTED STORM EVENTS AND MODIFIED TO ACCOUNT FOR CHANGING SITE CONDITIONS (E.G., ADDITIONAL COVER MEASURES, ADDITIONAL SUMP PUMPS, RELOCATION OF DITCHES AND SILT FENCES, PERIMETER PROTECTION, ETC.).
- 7. THE ESC FACILITIES SHALL BE INSPECTED DAILY BY THE APPLICANT/ESC SUPERVISOR AND MAINTAINED TO ENSURE CONTINUED PROPER FUNCTIONING. WRITTEN RECORDS SHALL BE KEPT OF WEEKLY REVIEWS OF THE ESC FACILITIES.
- 8. ANY AREAS OF EXPOSED SOILS, INCLUDING ROADWAY EMBANKMENTS, THAT WILL NOT BE DISTURBED FOR TWO DAYS DURING THE WET SEASON OR SEVEN DAYS DURING THE DRY SEASON SHALL BE IMMEDIATELY STABILIZED WITH THE APPROVED ESC COVER METHODS (E.G., SEEDING, MULCHING, PLASTIC COVERING, ETC.).
- 9. ANY AREA NEEDING ESC MEASURES, NOT REQUIRING IMMEDIATE ATTENTION, SHALL BE ADDRESSED WITHIN SEVEN (7) DAYS.
- 10. THE ESC FACILITIES ON INACTIVE SITES SHALL BE INSPECTED AND MAINTAINED A MINIMUM OF ONCE A MONTH (MORE FREQUENTLY AS REQUIRED BY THE DPER SITE INSPECTOR) OR WITHIN 24 HOURS FOLLOWING A STORM EVENT.
- 11. NOT USED
- 12. NOT USED
- 13. COVER MEASURES WILL BE APPLIED IN CONFORMANCE WITH APPENDIX D OF THE KING COUNTY SURFACE WATER DESIGN MANUAL.
- 14. PRIOR TO THE BEGINNING OF THE WET SEASON (OCT. 1), ALL DISTURBED AREAS SHALL BE REVIEWED TO IDENTIFY WHICH ONES CAN BE SEEDED IN PREPARATION FOR THE WINTER RAINS. DISTURBED AREAS SHALL BE SEEDED WITHIN ON WEEK OF THE BEGINNING OF THE WET SEASON. A SKETCH MAP OF THOSE AREAS TO BE SEEDED AND THOSE AREAS TO REMAIN UNCOVERED SHALL BE SUBMITTED TO THE DPER INSPECTOR FOR REVIEW.

KING COUNTY STANDARD DRAINAGE NOTES

- PROOF OF LIABILITY INSURANCE SHALL BE SUBMITTED TO DPER PRIOR TO THE CONSTRUCTION OF THE DRAINAGE FACILITIES, PREFERABLY AT THE PRECONSTRUCTION MEETING.
- 2. ALL PIPE AND APPURTENANCES SHALL BE LAID ON A PROPERLY PREPARED FOUNDATION IN ACCORDANCE WITH WSDOT SPECIFICATION. THIS SHALL INCLUDE LEVELING AND COMPACTING THE TRENCH BOTTOM, THE TOP OF THE FOUNDATION MATERIAL, AND ANY REQUIRED PIPE BEDDING, TO A UNIFORM GRADE SO THAT THE ENTIRE PIPE IS SUPPORTED BY A UNIFORMLY DENSE UNYIELDING BASE.
- NOT USED
- 4. NOT USED
- 5. NOT USED
- ALL DRIVEWAY CULVERTS LOCATED WITHIN KING COUNTY RIGHT-OF-WAY SHALL BE OF SUFFICIENT LENGTH TO PROVIDE A MINIMUM 3:1 SLOPE FROM THE EDGE OF THE DRIVEWAY TO THE BOTTOM OF THE DITCH. CULVERTS SHALL HAVE BEVELED END SECTIONS TO MATCH THE SIDE SLOPE PER KCRDCS.
- 7. ROCK FOR EROSION PROTECTION OF ROADWAY DITCHES, WHERE REQUIRED, MUST BE OF SOUND QUARRY ROCK, PLACED TO A DEPTH OF 1 FOOT, AND MUST MEET THE FOLLOWING

- SPECIFICATIONS: 4"-8"/40%-70% PASSING; 2"-4" ROCK/30%-40% PASSING; AND -2" ROCK/10%-20% PASSING. INSTALLATION SHALL BE IN ACCORDANCE WITH KCRDCS.
- 9. ALL DISTURBED PERVIOUS AREAS (COMPACTED, GRADED, LANDSCAPED, ETC.) OF THE DEVELOPMENT SITE MUST DEMONSTRATE ONE OF THE FOLLOWING, IN ACCORDANCE WITH KCC AND THE LOW IMPACT DEVELOPMENT (LID) COMPONENTS OF THE APPROVED SITE PLAN: THE EXISTING DUFF LAYER SHALL BE STAGED AND REDISTRIBUTED TO MAINTAIN THE MOISTURE CAPACITY OF THE SOIL, OR AMENDED SOIL SHALL BE ADDED TO MAINTAIN THE MOISTURE
- 10. SEASONAL CLEARING IS LIMITED BETWEEN OCTOBER 1 AND APRIL 30 INCLUSIVE, UNLESS OTHERWISE APPROVED WITH A WRITTEN DECISION BY THE REVIEWING AGENCY.
- 11. IMPROVEMENTS AND/OR BUILDINGS SHALL NOT BE INSTALLED UNTIL DRAINAGE FACILITIES ARE "IN OPERATION", (KCC 9.04).

KING COUNTY STANDARD CONSTRUCTION SEQUENCE

- 1. HOLD THE PRE-CONSTRUCTION MEETING.
- 2. POST SIGN WITH NAME AND PHONE NUMBER OF CSWPP/ESC SUPERVISOR (MAY BE CONSOLIDATED WITH THE REQUIRED NOTICE OF CONSTRUCTION SIGN).
- 3. FLAG OR FENCE CLEARING LIMITS.
- 4. INSTALL CATCH BASIN PROTECTION, IF REQUIRED. INSTALL FLOW CONTROL BMP AREA PROTECTION, IF REQUIRED.
- 5. GRADE AND INSTALL CONSTRUCTION ENTRANCE(S)
- 6. INSTALL PERIMETER PROTECTION (SILT FENCE, BRUSH BARRIER, ETC.).
- 7. CONSTRUCT SEDIMENT PONDS AND TRAPS.
- 8. GRADE AND STABILIZE CONSTRUCTION ROADS.
- 9. CONSTRUCT SURFACE WATER CONTROLS (INTERCEPTOR DIKES, PIPE SLOPE DRAINS, ETC.) SIMULTANEOUSLY WITH CLEARING AND GRADING FOR PROJECT DEVELOPMENT. CONSTRUCT SWPPS IN ANTICIPATION OF SCHEDULED CONSTRUCTION ACTIVITY (E.G., CONCRETE-RELATED pH MEASURES FOR UTILITY, VAULT, OR ROADWAY CONSTRUCTION).
- 10. MAINTAIN EROSION CONTROL AND SWPPS MEASURES IN ACCORDANCE WITH KING COUNTY STANDARDS AND MANUFACTURER'S RECOMMENDATIONS.
- 11. RELOCATE EROSION CONTROL AND SWPPS MEASURES OR INSTALL NEW MEASURES SO THAT AS SITE CONDITIONS CHANGE, THE EROSION AND SEDIMENT CONTROL AND POLLUTANT PROTECTION IS ALWAYS IN ACCORDANCE WITH THE KING COUNTY CONSTRUCTION POLLUTION PREVENTION
- 12. COVER ALL AREAS THAT WILL BE UNWORKED FOR MORE THAN SEVEN DAYS DURING THE DRY SEASON OR TWO DAYS DURING THE WET SEASON WITH STRAW, WOOD FIBER MULCH, COMPOST, PLASTIC SHEETING, OR EQUIVALENT.
- 13. STABILIZE ALL AREAS WITHIN SEVEN DAYS OF REACHING FINAL GRADE.
- 14. SEED, SOD, STABILIZE, OR COVER ANY AREAS TO REMAIN UNWORKED FOR MORE THAN 30 DAYS.
- 15. UPON COMPLETION OF THE PROJECT, STABILIZE ALL DISTURBED AREAS AND REMOVE BMPS IF APPROPRIATE.



AT FULL SCALE IF NOT ONE INCH SCALE ACCORDINGLY

ONE INCH

Know what's below. Call before you dig.

VERTICAL: NAVD 1988 HORIZONTAL: NAD 1983/1991

REVISION PPROVED: CHRIS BRUMMER, PE FUNDING ROJECT MANAGER: DAN HECKENDORF, PE SOURCE No. THOMAS BANNISTER, PWS 1131550 PROJECT No.. ECOLOGIST:_ JERRY SCHELLER, PE DESIGNED: __ CONTRACT No. E00599E19 ALEX BUESCHER, PE REVIEWED: SELENE FISHER, PE NUM. RECORD CHANGES APPROVED BY DATE

CAD DESIGN: NADINE STOCK, PE







Christie True, Director

River and Floodplain Management Section

STANDARD NOTES

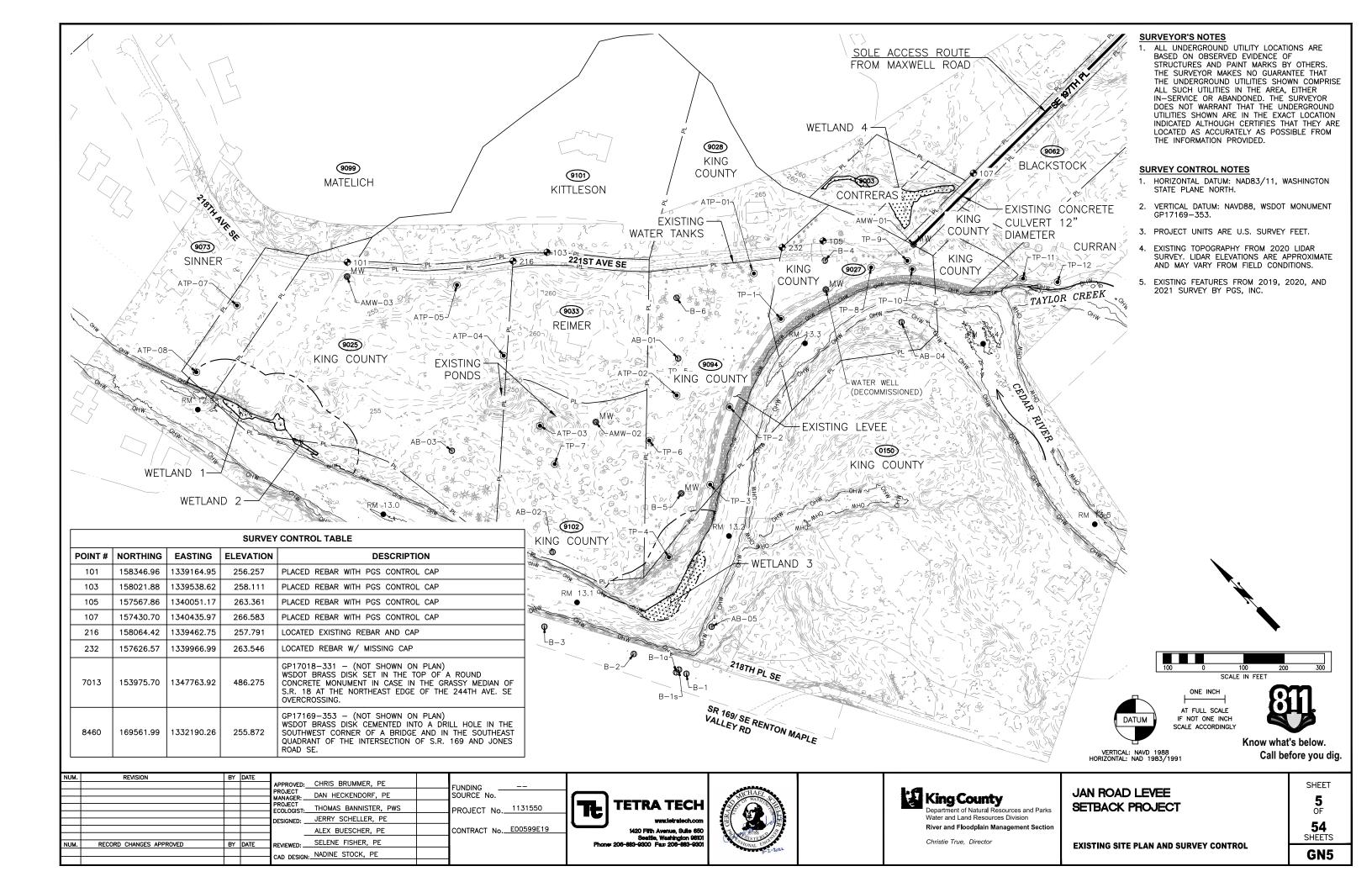
54 SHEETS

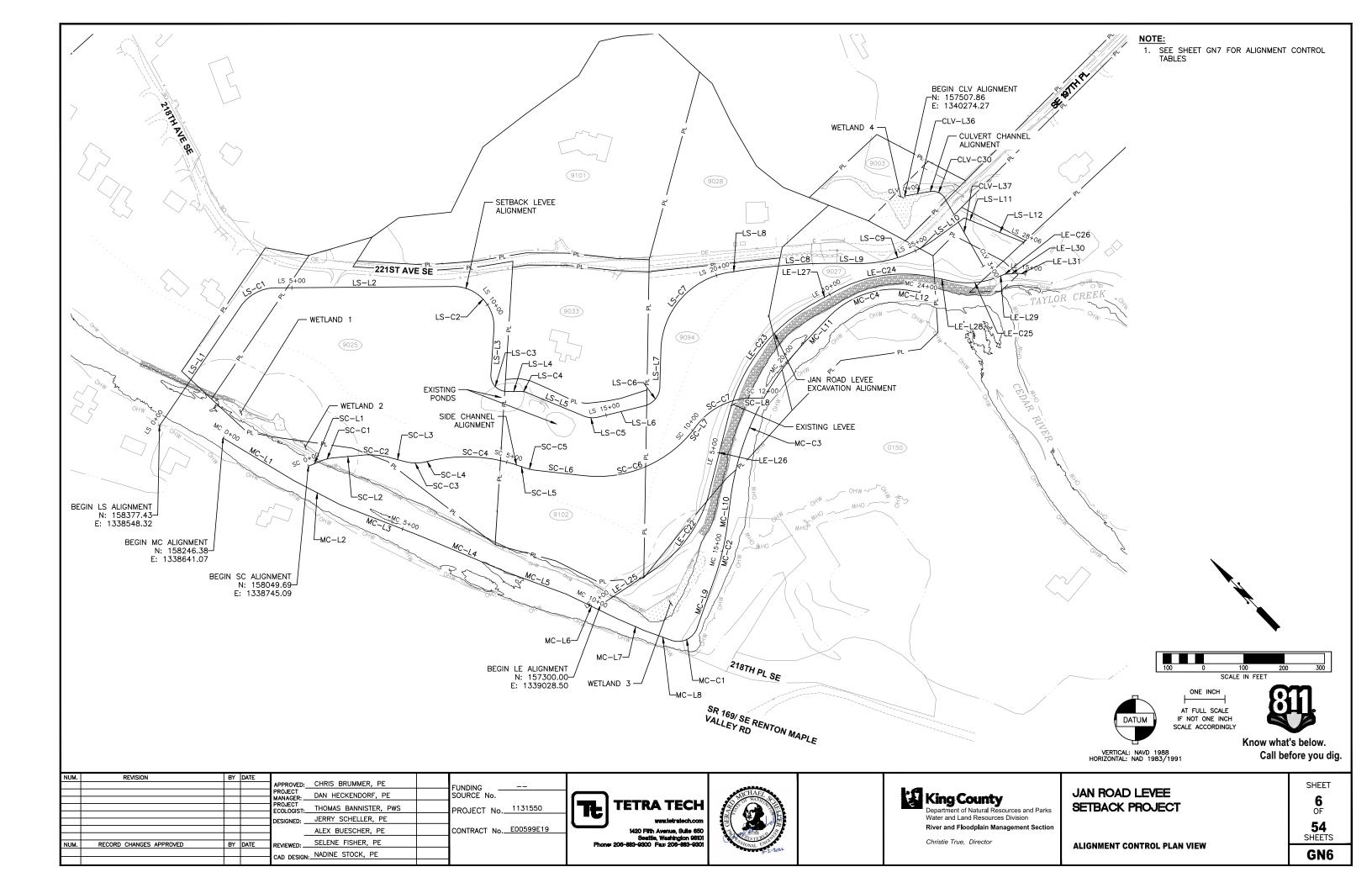
SHEET

GN4

JAN ROAD LEVEE

SETBACK PROJECT





	LINE TABLE SETBACK LEVEE ALIGNMENT								
LINE#	BEARING	DISTANCE	START POINT	END POINT					
LS-L1	N78° 05' 49"E	357.41'	0+00.00	3+57.41					
LS-L2	S46° 32' 54"E	440.41'	4+59.82	9+00.23					
LS-L3	S47° 46' 25"W	110.95	10+64.86	11+75.80					
LS-L4	S46° 45' 30"E	32.87'	12+41.80	12+74.66					
LS-L5	S23° 48' 24"E	153.63'	12+90.69	14+44.31					
LS-L6	S59° 42' 38"E	119.07	14+78.78	15+97.85					
LS-L7	N45* 28' 50"E	91.49'	16+63.13	17+54.63					
LS-L8	S55° 13' 06"E	24.86'	20+31.44	20+56.30					
LS-L9	S44° 55' 06"E	21.68'	23+25.96	23+47.64					
LS-L10	S81° 58' 02"E	88.33'	25+57.79	26+46.12					
LS-L11	S23° 47' 12"E	30.53'	26+46.12	26+76.64					
LS-L12	S23° 47' 12"E	129.63'	26+76.64	28+06.27					

CURVE TABLE SETBACK LEVEE ALIGNMENT							
CURVE#	CURVE ANGLE	CHORD LENGTH	RADIUS	START POINT	END POINT		
LS-C1	54* 03' 09"	98.47'	106.00'	3+57.41	4+59.82		
LS-C2	57* 17' 45"	146.65	100.00'	9+00.23	10+64.86		
LS-C3	143° 14′ 22″	58.76'	40.00'	11+75.80	12+41.80		
LS-C4	143° 14' 22"	15.92'	40.00'	12+74.66	12+90.69		
LS-C5	104 10 20"	33.90'	55.00'	14+44.31	14+78.78		
LS-C6	114° 35′ 30″	60.74	50.00'	15+97.85	16+63.13		
LS-C7	28* 38' 52"	255.24'	200.00'	17+54.63	20+31.44		
LS-C8	3* 49' 11"	269.29	1500.00'	20+56.30	23+25.96		
LS-C9	17° 37' 46"	206.51	325.00'	23+47.64	25+57.79		

	LINE TABLE SIDE CHANNEL ALIGNMENT								
LINE#	BEARING	DISTANCE	START POINT	END POINT					
SC-L1	S68° 36' 51"E	32.58'	0+00.00	0+32.58					
SC-L2	S51° 24' 01"E	68.96'	0+67.13	1+36.10					
SC-L3	S31° 21' 50"E	40.45'	2+06.04	2+46.49					
SC-L4	S59° 09' 43"E	11.30'	2+95.01	3+06.31					
SC-L5	S26° 20' 19"E	5.89'	5+35.45	5+41.34					
SC-L6	S39° 46' 01"E	120.00'	5+76.50	6+96.50					
SC-L7	N80° 26' 01"E	2.50'	10+09.61	10+12.10					
SC-L8	S46° 31' 00"E	25.87'	11+74.13	12+00.00					

	CURVE TABLE SIDE CHANNEL ALIGNMENT								
CURVE#	CURVE ANGLE	CHORD LENGTH	RADIUS	START POINT	END POINT				
SC-C1	49* 49' 21"	34.42'	115.00'	0+32.58	0+67.13				
SC-C2	28° 38' 52"	69.58'	200.00'	1+36.10	2+06.04				
SC-C3	57° 17' 45"	48.04'	100.00'	2+46.49	2+95.01				
SC-C4	14° 19' 26"	226.03	400.00'	3+06.31	5+35.45				
SC-C5	38° 11' 50"	35.07	150.00'	5+41.34	5+76.50				
SC-C6	19* 05' 55"	299.09'	300.00'	6+96.50	10+09.61				
SC-C7	32* 44' 26"	156.30'	175.00'	10+12.10	11+74.13				

	LINE TABLE JAN ROAD LEVEE EXCAVATION ALIGNMENT								
LINE#	BEARING	DISTANCE	START POINT	END POINT					
LE-L25	S79* 36' 58"E	159.75'	0+00.00	1+59.75					
LE-L26	N58° 02' 36"E	198.49'	4+02.03	6+00.52					
LE-L27	S75° 04' 40"E	57.72'	9+56.76	10+14.48					
LE-L28	S34* 05' 43"E	46.35'	12+64.99	13+11.35					
LE-L29	S68° 04' 41"E	14.13'	14+29.97	14+44.09					
LE-L30	S50° 58' 34"E	27.16'	14+51.56	14+78.72					
LE-L31	S39° 59' 00"E	21.28'	14+78.72	15+00.00					

	CURVE TABLE JAN ROAD LEVEE EXCAVATION ALIGNMENT								
CURVE#	CURVE ANGLE	CHORD LENGTH	RADIUS	START POINT	END POINT				
LE-C22	17° 28' 34"	236.80'	327.85	1+59.75	4+02.03				
LE-C23	13° 09' 33"	346.39	435.41	6+00.52	9+56.76				
LE-C24	16° 21' 34"	245.20'	350.23	10+14.48	12+64.99				
LE-C25	28* 38' 52"	116.89'	200.00'	13+11.35	14+29.97				
LE-C26	229 10 59"	7.43'	25.00'	14+44.09	14+51.56				

LINE TABLE MAIN CHANNEL ALIGNMENT								
LINE#	BEARING	DISTANCE	START POINT	END POINT				
MC-L1	S15° 06' 19"E	204.78'	0+00.00	2+04.78				
MC-L2	S18* 39' 40"E	130.01'	2+04.78	3+34.79				
MC-L3	S24° 48' 54"E	213.16'	3+34.79	5+47.95				
MC-L4	S23° 22' 31"E	229.25'	5+47.95	7+77.20				
MC-L5	S25° 54' 21"E	160.11'	7+77.20	9+37.31				
MC-L6	S20* 18' 31"E	137.26'	9+37.31	10+74.57				
MC-L7	S22* 37' 29"E	77.83'	10+74.57	11+52.40				
MC-L8	S26° 16' 25"E	68.47'	11+52.40	12+20.87				
MC-L9	N63° 15' 18"E	129.83'	12+99.82	14+29.65				
MC-L10	N51° 09' 13"E	61.99'	15+66.93	16+28.92				
MC-L11	N87° 33' 54"E	79.29'	20+73.77	21+53.07				
MC-L12	S36° 46' 39"E	28.37'	23+71.63	24+00.00				

CURVE TABLE MAIN CHANNEL ALIGNMENT									
CURVE#	CURVE ANGLE	CHORD LENGTH	RADIUS	START POINT	END POINT				
MC-C1	114° 35′ 30″	71.00'	50.00'	12+20.87	12+99.82				
MC-C2	8* 48' 53"	137.03'	650.00'	14+29.65	15+66.93				
мс-сз	8° 11' 06"	437.40'	700.00'	16+28.92	20+73.77				
MC-C4	25* 27' 53"	210.07	225.00'	21+53.07	23+71.63				

LINE TABLE CULVERT CHANNEL ALIGNMENT							
LINE#	BEARING DISTANCE START		START POINT	END POINT			
CLV-L36	S55° 57' 59"E	64.06'	0+00.00	0+64.06			
CLV-L37	S14° 17' 48"W	193.02'	1+06.98	3+00.00			

CURVE TABLE CULVERT CHANNEL ALIGNMENT							
CURVE#	CURVE ANGLE	CHORD LENGTH	START POINT	END POINT			
CLV-C30	163° 42' 08"	40.28'	35.00'	0+64.06	1+06.98		

NOTE:

1. SEE SHEET GN6 FOR ALIGNMENT CONTROL PLAN



ONE INCH AT FULL SCALE
IF NOT ONE INCH
SCALE ACCORDINGLY

Know what's below. Call before you dig.

VERTICAL: NAVD 1988 HORIZONTAL: NAD 1983/1991

NUM.	REVISION	BY	DATE			
				APPROVED:_	CHRIS BRUMMER, PE	FUNDING
				PROJECT MANAGER:	DAN HECKENDORF, PE	SOURCE No.
				PROJECT ECOLOGIST:_	THOMAS BANNISTER, PWS	PROJECT No. 1131550
				DESIGNED: _	JERRY SCHELLER, PE	
					ALEX BUESCHER, PE	CONTRACT No. E00599E19
				_	05:515 50155 05	
NUM.	RECORD CHANGES APPROVED	BY	DATE	REVIEWED:	SELENE FISHER, PE	
				CAD DESIGN	NADINE STOCK, PE	
		ı	1 1	CUD DESIGN	-	 4







River and Floodplain Management Section

Christie True, Director

JAN ROAD LEVEE SETBACK PROJECT

ALIGNMENT CONTROL TABLES

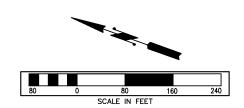
SHEET **7** OF **54** SHEETS

ELJ TYPE 1 CONTROL POINTS						
POINT #	NORTHING	EASTING				
1-1-S2-CP1	157454.85	1339577.43				
1-1-S2-CP2	157481.38	1339568.46				
1-2-S2-CP1	157494.12	1339543.38				
1-2-S2-CP2	157519.95	1339532.58				
1-3-S2-CP1	157454.72	1339538.27				
1-3-S2-CP2	157481.25	1339529.30				
1-4-S3-CP1	157447.85	1339488.15				
1-4-S3-CP2	157475.84	1339488.46				
1-5-S2-CP1	157426.78	1339483.25				
1-5-S2-CP2	157451.54	1339470.18				
1-6-S2-CP1	157421.11	1339425.18				
1-6-S2-CP2	157448.63	1339420.05				
1-7-S3-CP1	157421.99	1339394.09				
1-7-S3-CP2	157449.96	1339395.39				
1-8-S2-CP1	157442.70	1339339.09				
1-8-S2-CP2	157470.45	1339342.88				
1-9-S3-CP1	157453.02	1339319.31				
1-9-S3-CP2	157481.00	1339320.39				
1-10-S2-CP1	157487.91	1339276.77				
1-10-S2-CP2	157512.95	1339289.31				
1-11-S2-CP1	157541.14	1339239.67				
1-11-S2-CP2	157569.06	1339241.76				
1-12-S3-CP1	157536.47	1339205.20				
1-12-S3-CP2	157556.91	1339224.34				
1-13-S2-CP1	157632.28	1339203.09				
1-13-S2-CP1	157615.62	1339180.58				
1-14-S2-CP1	157604.70	1339145.66				
1-14-S2-CP2	157624.15	1339165.81				
1-15-S3-CP1	157619.27	1339138.75				
1-15-S3-CP2	157643.72	1339152.39				
1-16-S2-CP1	157766.49	1339033.82				
1-16-S2-CP2	157782.09	1339057.18				
1-17-S3-CP1	157799.35	1338999.14				
1-17-S3-CP2	157824.83	1339010.74				
1-18-S2-CP1	157841.96	1338980.31				
1-18-S2-CP2	157867.45	1338991.91				
1-19-S2-CP1	157916.45	1338890.03				
1-19-S2-CP2	157941.93	1338901.63				
1-20-S3-CP1	157959.84	1338874.16				
1-20-S3-CP2	157980.82	1338892.70				
1-21-S2-CP1	158013.59	1338884.00				
1-21-S2-CP2	158034.95	1338902.10				

CSS CONTROL POINTS							
POINT #	NORTHING	EASTING					
CSS-1-1	157433.91	1339640.61					
CSS-1-2	157393.36	1339683.01					
CSS-1-3	157378.55	1339617.01					
CSS-1-4	157341.93	1339636.34					
CSS-2-1	157215.96	1339270.62					
CSS-2-2	157174.10	1339288.18					
CSS-2-3	157134.12	1339307.28					
CSS-2-4	157179.49	1339207.97					
CSS-2-5	157108.59	1339236.02					
CSS-3-1	157509.45	1339454.54					
CSS-3-2	157476.82	1339470.63					
CSS-3-3	157468.35	1339425.77					
CSS-3-4	157487.51	1339393.09					
CSS-3-5	157532.96	1339422.27					
CSS-4-1	157659.03	1339129.82					
CSS-4-2	157719.65	1339138.76					
CSS-4-3	157737.46	1339095.00					
CSS-5-1	158004.80	1338857.73					
CSS-5-2	158052.88	1338795.50					
CSS-5-3	158084.09	1338769.87					
CSS-6-1	157537.34	1339019.46					
CSS-6-2	157576.43	1339003.24					
CSS-6-3	157592.06	1338974.89					

ELJ TYPE 3 CONTROL POINTS						
POINT #	NORTHING	EASTING				
3-1-CP1	157404.63	1339610.75				
3-2-CP1	157435.93	1339575.79				
3-3-CP1	157431.16	1339539.52				
3-4-CP1	157664.59	1339134.69				
3-5-CP1	157693.63	1339119.65				
3-6-CP1	157720.72	1339124.44				
3-7-CP1	157731.39	1339090.38				
3-8-CP1	157871.64	1338927.08				
3-9-CP1	158004.80	1338857.73				
3-10-CP1	158009.93	1338830.03				
3-11-CP1	158022.24	1338815.75				
3-12-CP1	158052.88	1338795.50				
3-13-CP1	158084.09	1338769.87				

ELJ TYPE 4 CONTROL POINTS						
POINT #	NORTHING	EASTING				
4-1-CP1	157543.24	1339561.05				
4-1-CP2	157510.30	1339568.50				
4-2-CP1	157513.73	1339503.72				
4-2-CP2	157480.16	1339507.39				
4-3-CP1	157510.23	1339448.65				
4-3-CP2	157478.57	1339460.40				
4-4-CP1	157411.68	1339453.58				
4-4-CP2	157445.41	1339451.92				
4-5-CP1	157504.14	1339419.60				
4-5-CP2	157470.67	1339415.12				
4-6-CP1	157425.59	1339369.49				
4-6-CP2	157458.57	1339362.19				
4-7-CP1	157477.49	1339260.86				
4-7-CP2	157511.24	1339262.28				
4-8-CP1	157561.09	1339180.66				
4-8-CP2	157594.37	1339186.38				
4-9-CP1	157735.29	1339058.44				
4-9-CP2	157765.04	1339074.46				
4-10-CP1	157827.09	1338932.80				
4-10-CP2	157856.82	1338948.81				
4-11-CP1	157968.74	1339001.05				
4-11-CP2	157943.13	1338979.04				
4-12-CP1	157961.28	1338962.37				
4-12-CP2	157940.69	1338935.60				
4-13-CP1	158006.63	1338965.83				
4-13-CP2	157981.64	1338943.15				
4-14-CP1	158024.22	1338935.66				
4-14-CP2	157996.42	1338916.48				





ONE INCH AT FULL SCALE
IF NOT ONE INCH
SCALE ACCORDINGLY

Know what's below.

VERTICAL: NAVD 1988 HORIZONTAL: NAD 1983/1991

Call before you dig.

NUM.	REVISION	BY	DATE				Т
				APPROVED:_	CHRIS BRUMMER, PE	FUNDING	
				PROJECT MANAGER:	DAN HECKENDORF, PE	SOURCE No.	
				PROJECT	· ·		
				ECOLOGIST:_	THOMAS BANNISTER, PWS	PROJECT No. 1131550	
				DESIGNED:	DAN HECKENDORF, PE	1 1100201 110.	
				_		CONTRACT No. E00599E19	
				_			
NUM.	RECORD CHANGES APPROVED	BY	DATE	REVIEWED:	GUS KAYS, PE		
				CAD DESIGN:	NADINE STOCK, PE	ĺ	
1 1				CAD DESIGN.			





Christie True, Director

JAN ROAD LEVEE SETBACK PROJECT

WOOD STRUCTURE CONTROL POINTS

8 OF **53** SHEETS

SHEET

ITEM	LOG ID	DIA (IN)	LENGTH (FT)	ROOTWAD	ROOTWAD ITEM COUNT PER ELJ TYPE ITEM TOTALS PER ELJ TYPE			TOTAL ITEM COUNT					
					TYPE 1	TYPE 2	TYPE 3	TYPE 4	TYPE 1	TYPE 2	TYPE 3	TYPE 4	
LOGS AND ROOTWAD LOGS	S1	18 - 23	40	Υ				1	0	0	0	14	14
	S2/S3	24 - 29 / 30 - 36	40	Υ	1				21	0	0	0	21
	L1	18	25	N		3			0	3	0	0	3
	L2	18	35	N		1			0	1	0	0	1
	R1	18	35	Υ		2			0	2	0	0	2
	R2	18	30	Υ		2			0	2	0	0	2
	R3	24	35	Υ		4			0	4	0	0	4
	R4	18	25	Υ		4			0	4	0	0	4
	R5	20	40	Υ			3		0	0	126	0	126
PILES	P1	18 (BUTT)	50 - 55	N		7			0	7	0	0	7
	P2	16 (BUTT)	30 - 35	N	4		2	4	84	0	84	56	224
RACKING AND SLASH	J	4 - 8	30	N			30		0	0	1260	0	1260
	J1	4 - 16	15 - 40	Υ		12			0	12	0	0	12
	J2	4 - 16	15 - 40	N		38			0	38	0	0	38
	J3	6 - 12	40	Υ	6			6	126	0	0	84	210
	J4	6 - 12	40	N	14			10	294	0	0 0 140 434	434	
	S	SEE SPECS. MEASURED IN CY.				60		10	0	60	0	140	200

NOTE:

BIOREVETMENT LOG AND PILE QUANTITES ARE PROVIDED IN TABLES ON SHEETS BR2 AND BR4.

NUM.	REVISION	BY	DATE			
				APPROVED:_	CHRIS BRUMMER, PE	FUNDING
				PROJECT MANAGER:	DAN HECKENDORF, PE	SOURCE No.
				PROJECT ECOLOGIST:	THOMAS BANNISTER, PWS	PROJECT No. 1131550
				DESIGNED:	DAN HECKENDORF, PE	
						CONTRACT No. E00599E19
NUM.	RECORD CHANGES APPROVED	BY	DATE	REVIEWED:	GUS KAYS, PE	
				CAD DESIGN:	NADINE STOCK, PE	
				320,0,0		



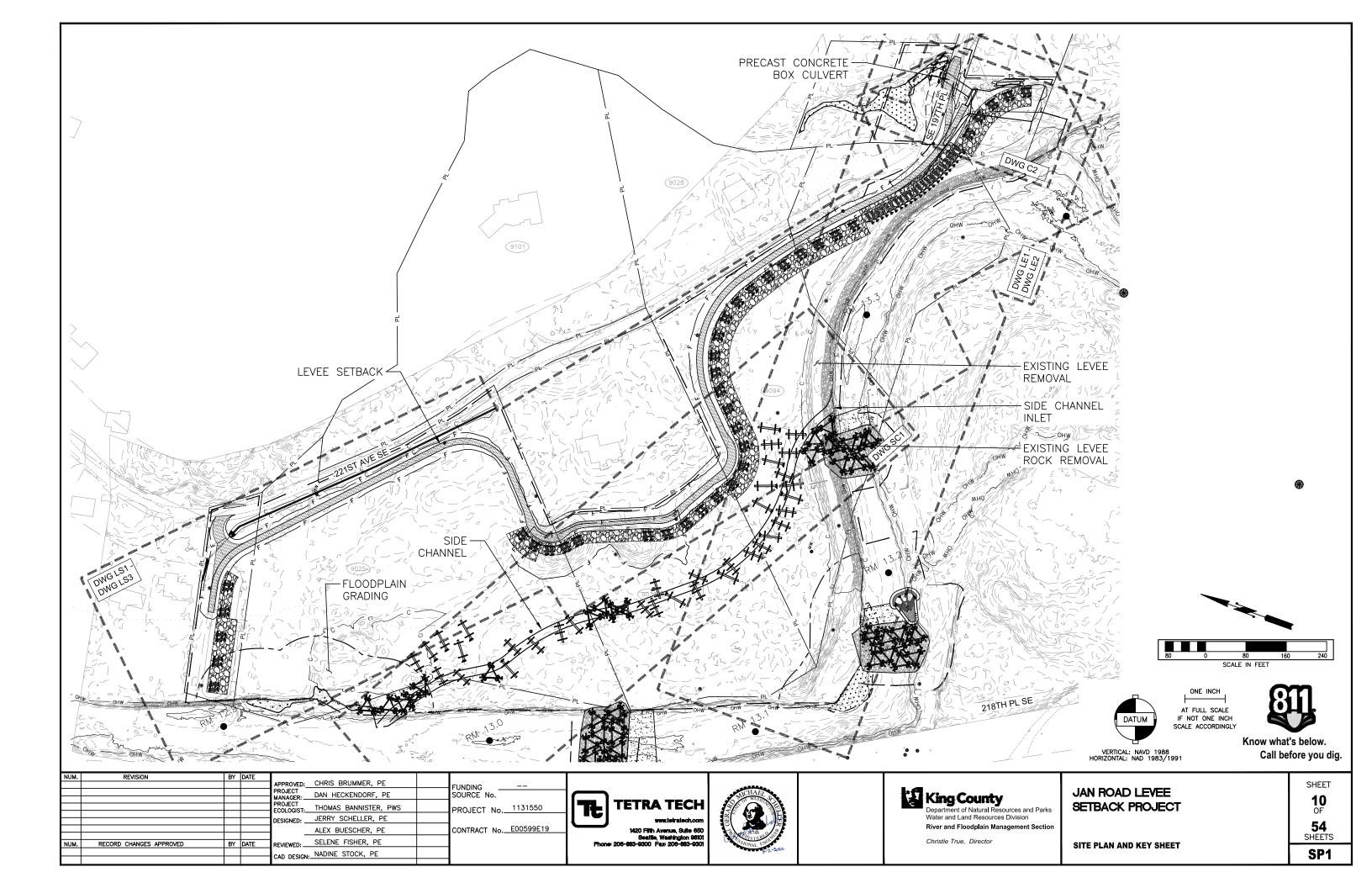


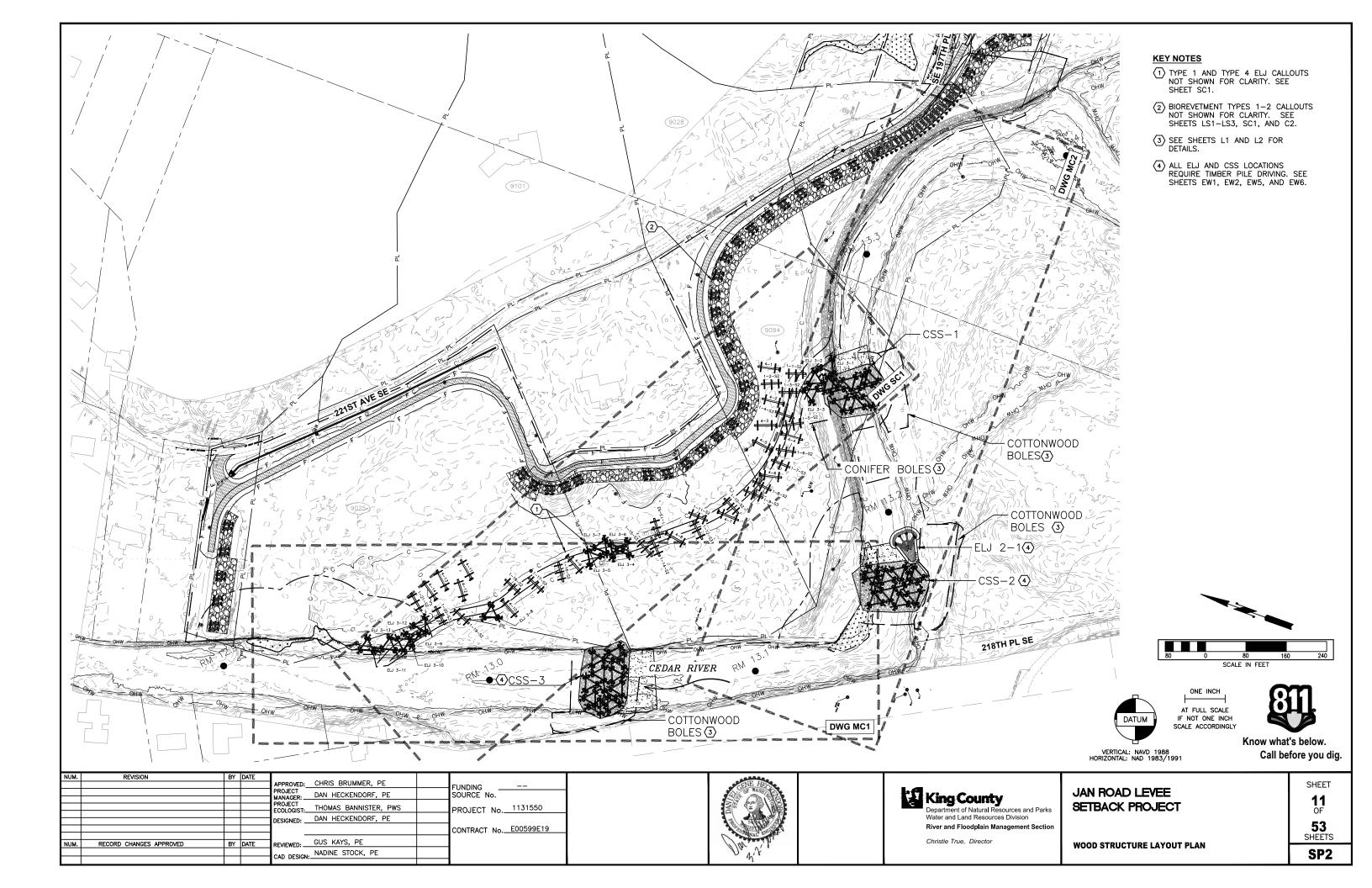
Christie True, Director

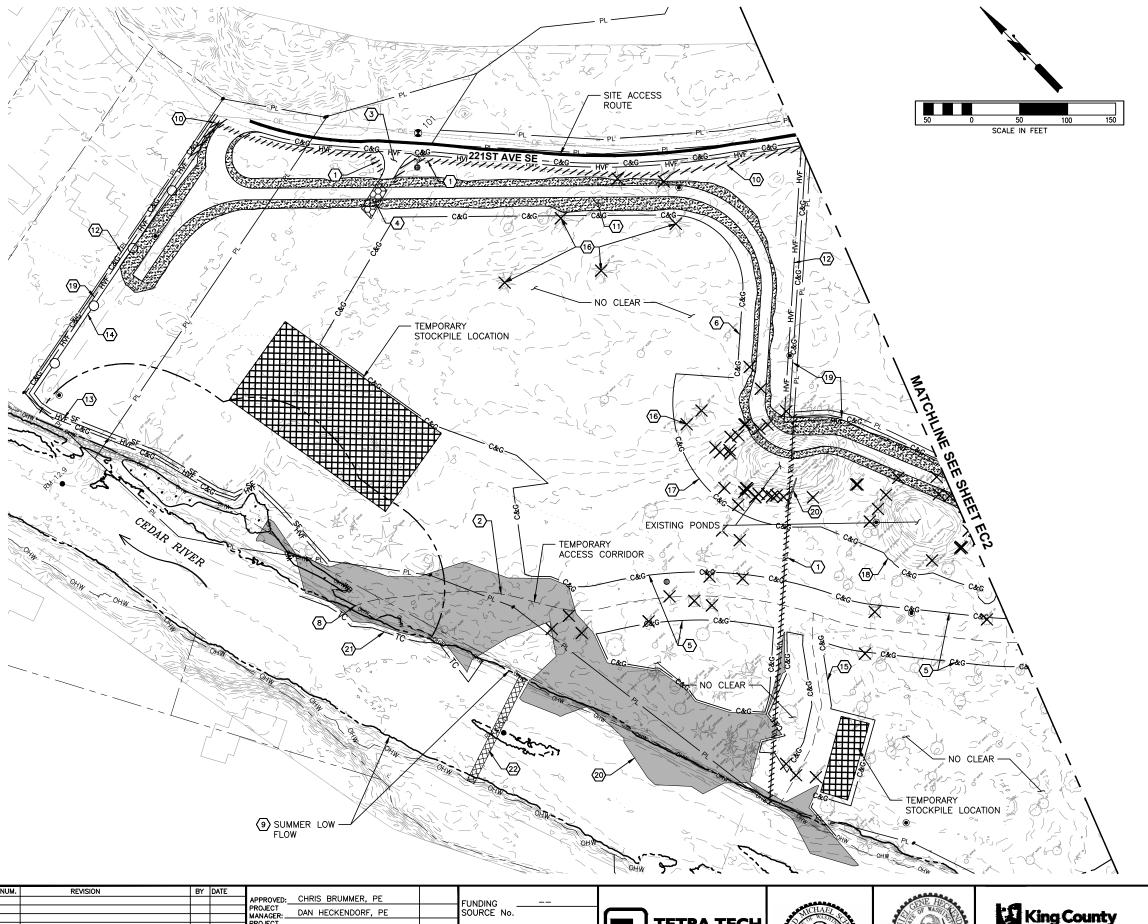
JAN ROAD LEVEE
BETBACK PROJECT

PROJECT ELJ LOG SCHEDULE

SHEET **9** OF **53** SHEETS







KEY NOTES

- 1 REMOVE EXISTING FENCE
- (2) TEMPORARY CHANNEL CROSSING. LOCATION SHOWN IS APPROXIMATE. CONTRACTOR TO DETERMINE MEANS AND METHODS, INCLUDING CROSSING LOCATION(S). SEE PROJECT SPECIFICATIONS FOR REQUIREMENTS.
- 3 USE EXISTING ASPHALT DRIVEWAY AS CONSTRUCTION ENTRANCE. REMOVE DRIVEWAY ONCE SETBACK LEVEE IS CONSTRUCTED.
- 4 EXTEND EXISTING ASPHALT DRIVEWAY AS NECESSARY WITH STABILIZED CONSTRUCTION ENTRANCE. SEE DETAIL 4, SHEET EC5.
- (5) ESTABLISH CLEARING LIMITS OFFSET 20 FEET ON BOTH SIDES OF THE SIDE CHANNEL CENTERLINE. PROVIDE HIGH VISIBILITY FLAGGING AT CLEARING LIMITS.
- (6) ESTABLISH CLEARING LIMITS 25 FEET FROM LEVEE CENTERLINE.
- (7) ESTABLISH CLEARING LIMITS 25 FEET BEYOND EXCAVATION FOR ENGINEERED LOG JAMS AND CHANNEL SPANNING STRUCTURE. PROVIDE HIGH VISIBILITY FLAGGING AT CLEARING LIMITS.
- (8) DOWNSTREAM 20 FEET +/- OF SIDE CHANNEL TO BE LEFT UNEXCAVATED UNTIL PRIMARY SIDE CHANNEL IS NO LONGER NEEDED TO STORE DEWATERED RIVER WATER.
- (9) 2019 SUMMER LOW WATER EDGE (APPROXIMATE FLOW 130 CFS) SHOWN FOR ILLUSTRATION ONLY AND VARIES WITH FLOW RATE. CONTRACTOR SHALL VERIFY CURRENT RIVER FLOW CONDITIONS AT TIME OF CONSTRUCTION.
- 10 PROTECT EXISTING GUY WIRE.
- (11) EROSION CONTROL BLANKET. SEE DETAIL 1, SHEET EC5.
- (12) INSTALL HIGH VISIBILITY FENCE AT C&G LIMIT. OFFSETS ARE SHOWN FOR VISUAL CLARITY. SEE DETAIL 2, SHEET EC5.
- (13) SILT FENCE PER DETAIL 3, SHEET EC5.
- (14) SHREDDED WOOD MULCH BERM. SEE CONTRACT SPECIFICATION 01 57 13.
- (15) ESTABLISH CLEARING LIMITS 10 FEET ON EITHER SIDE OF ACCESS ROUTE CENTERLINE. PROVIDE HIGH VISIBILITY FLAGGING AT CLEARING LIMITS.
- (16) REMOVE AND STOCKPILE TREES FOR REUSE AS FLOODPLAIN WOOD. REFER TO SHEET INDEX ON GN2 FOR FLOODPLAIN WOOD SHEETS.
- (17) ESTABLISH CLEARING LIMITS 90 FEET FROM LEVEE CENTERLINE.
- (18) ESTABLISH CLEARING LIMITS 5 FEET BEYOND EXISTING POND GRADING. SEE DETAIL 3, SHEET LS7.
- (19) ESTABLISH CLEARING LIMITS 5 FEET FROM PROPERTY LINE.
- © CLEAR AND GRUB NOXIOUS WEEDS PER THE PROJECT SPECIFICATIONS. PROTECT EXISTING TREES TO REMAIN WITHIN NOXIOUS WEED CLEAR AND
- (21) TURBIDITY CONTROL ISOLATION AS DESIGNED BY THE CONTRACTOR. SEE DETAIL 1, SHEET EC3.
- 22 BULK BAG COFFERDAM AS DESIGNED BY THE CONTRACTOR. SEE DETAIL 3 AND DETAIL 4, SHEET EC3.

NOTES

- 1. SEE SHEET EC4 FOR TESC AND ACCESS NOTES
- 2. SEE SHEET GN4 FOR KING COUNTY STANDARD NOTES



AT FULL SCALE IF NOT ONE INCH SCALE ACCORDINGLY

Know what's below.

Call before you dig.

FOR INFORMATIONAL PURPOSES ONLY

NUM.	REVISION	BY	DATE			
				APPROVED:_	CHRIS BRUMMER, PE	FUNDING
				PROJECT MANAGER:	DAN HECKENDORF, PE	SOURCE No.
				PROJECT ECOLOGIST:	THOMAS BANNISTER, PWS	PROJECT No. 1131550
				DESIGNED:	JERRY SCHELLER, PE	
					ALEX BUESCHER, PE	CONTRACT No. E00599E19
NUM.	RECORD CHANGES APPROVED	BY	DATE	REVIEWED:	SELENE FISHER, PE	
				CAD DESIGN:	NADINE STOCK, PE	









sources and Parks Water and Land Resources Division River and Floodplain Management Section

Christie True, Director

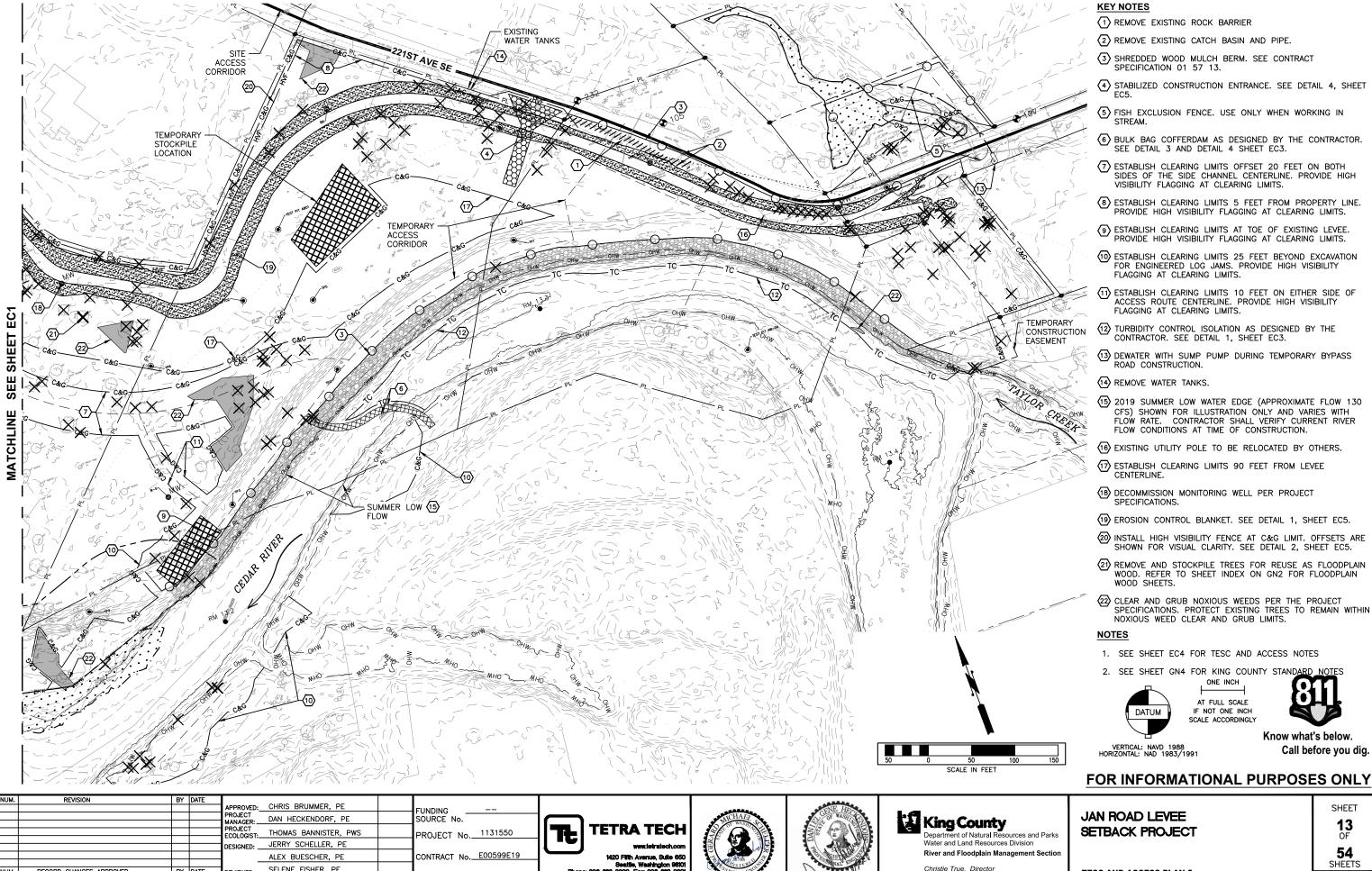
JAN ROAD LEVEE SETBACK PROJECT

TESC AND ACCESS PLAN 1

SHEET 12

> **54** SHEETS

EC1



REVIEWED: SELENE FISHER, PE

CAD DESIGN: NADINE STOCK, PE

BY DATE

NUM.

RECORD CHANGES APPROVED

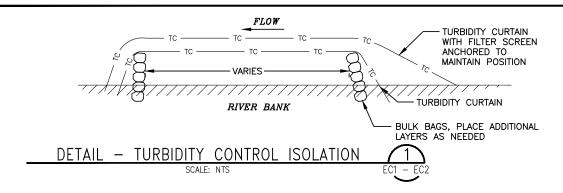
TESC AND ACCESS PLAN 2

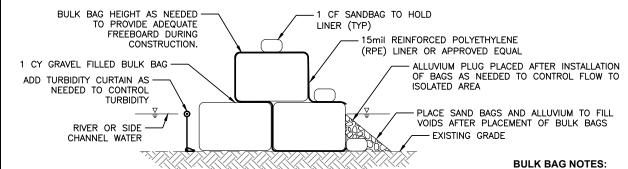
Christie True, Director

SHEET 13

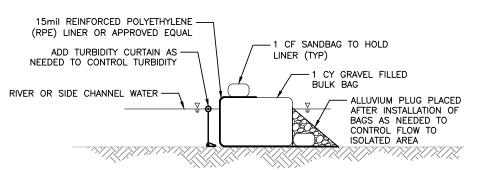
54 SHEETS

EC2











TEMPORARY CHANNEL CROSSING NOTES:

- CONTRACTOR SHALL SUBMIT FOR APPROVAL A TEMPORARY CHANNEL CROSSING PLAN AS A SEPARATE SECTION IN THE IN-WATER WORK ISOLATION PLAN (SEE WATER MANAGEMENT NOTE 1) PRIOR TO SITE WORK
- CONTRACTOR TO DESIGN TEMPORARY CHANNEL CROSSING AND SEQUENCING TO MAINTAIN CONVEYANCE OF RIVER WATER THROUGH EITHER THE MAIN CHANNEL OR FLOODPLAIN CHANNEL AT ALL TIMES. CONTRACTOR TO DETERMINE MEANS AND METHODS, INCLUDING CROSSING LOCATION(S). EARTHEN CROSSING MAY BE USED, PROVIDED FLOW CONVEYANCE CRITERIA ARE MET.
- 3. INSTALL TEMPORARY CHANNEL CROSSING TO CROSS EXCAVATED FLOODPLAIN CHANNEL.
- TEMPORARY CHANNEL CROSSING LOCATION SHOWN FOR ILLUSTRATION ONLY. CONTRACTOR SHALL SELECT TEMPORARY CHANNEL CROSSING LOCATION BASED ON CONDITIONS AT THE TIME OF CONSTRUCTION, CONTRACTOR MEANS AND METHODS, MINIMIZATION OF DISTURBANCE ASSOCIATED WITH TEMPORARY CHANNEL CROSSING INSTALLATION, AND ANTICIPATED (20 PERCENT EXCEEDANCE FLOW FOR THE CEDAR RIVER IN-WATER WORK WINDOW PERIOD APPROXIMATELY 275 CFS, USGS GAGE 12119000 CEDAR RIVER AT RENTON, WA). PROJECT REPRESENTATIVE SHALL APPROVE ALL TEMPORARY CHANNEL CROSSING LOCATIONS PRIOR TO

WATER MANAGEMENT NOTES:

- 1. WATER MANAGEMENT METHODS SHALL BE USED TO DIVERT FLOW AND ISOLATE WORK AREAS AS NECESSARY TO COMPLETE LEVEE REMOVAL, NEW CHANNEL EXCAVATION, AND ELJ INSTALLATION TO AVOID IMPACTS TO WATER QUALITY. THE CONTRACTOR SHALL SUBMIT A WATER MANAGEMENT AND WORK AREA ISOLATION PLAN FOR APPROVAL BY THE PROJECT REPRESENTATIVE 15 WORKING DAYS PRIOR TO INITIATING ANY ONSITE CONSTRUCTION ACTIVITIES. THE WATER MANAGEMENT AND WORK AREA ISOLATION PLAN SHALL ADDRESS SITE SPECIFIC TECHNIQUES AND METHODS FOR TEMPORARILY DIVERTING FLOW AND ISOLATING WORK AREAS AND FOR DEWATERING DURING LEVEE AND CHANNEL EXCAVATION AND LOG STRUCTURE CONSTRUCTION. CONTRACTOR SHALL PROVIDE DIVERSION AND ISOLATION MEANS CONSISTING OF TURBIDITY CURTAINS, BULK BAGS, BLADDER DAMS AND OTHER WATER ISOLATION SYSTEMS/BMPS AS APPROVED BY THE PROJECT REPRESENTATIVE AS NECESSARY TO ALLOW CONSTRUCTION WHILE PREVENTING IMPACTS TO WATER QUALITY. COMBINATION OF ISOLATION MEASURES MAY BE USED AS NECESSARY. THIS PLAN MAY BE COMBINED WITH THE TESC PLAN.
- 2. THE WATER MANAGEMENT FACILITIES SHOWN ON THESE PLANS ARE THE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, THESE WATER MANAGEMENT FACILITIES SHALL BE UPGRADED AS NEEDED FOR UNEXPECTED STORM EVENTS AND MODIFIED TO ACCOUNT FOR CHANGING SITE CONDITIONS (E.G., ADDITIONAL SUMP PUMPS, RELOCATION OF DITCHES AND SILT FENCES, ETC.).
- 3. CONSTRUCTION TO BE SEQUENCED DURING LOW FLOW. CONTRACTOR SHALL IDENTIFY LOCATION OF SUMMER LOW FLOW CHANNEL PRIOR TO CONSTRUCTION AND CONFIRM WITH PROJECT REPRESENTATIVE.
- 4. CONTRACTOR TO INSTALL OWNER-PROVIDED INWATER CONSTRUCTION WARNING SIGNS AS SHOWN ON SHEET EC2
- 5. CONTRACTOR SHALL CONSTRUCT TEMPORARY FLOW DIVERSION MEASURES STARTING AT UPSTREAM END OF WORK AREA TO DIRECT WATER AWAY FROM WORK
- 6. CONSTRUCTION WITHIN ISOLATED WORK AREAS MAY NOT COMMENCE UNTIL THE OWNER HAS COMPLETED ALL FISH EXCLUSION ACTIVITIES.
- 7. GROUND WATER ENCOUNTERED DURING LEVEE, CHANNEL, AND ELJ EXCAVATIONS MAY BE PUMPED AS NECESSARY TO ALLOW CONSTRUCTION AND INSPECTION OF NEW CHANNELS AND ELJS AND TO FACILITATE THE REMOVAL OF SEDIMENT AND TURBIDITY FROM THE WATER. ANY DISCHARGE OF WATER RETURNING TO THE RIVER SHALL NOT EXCEED THE WATER QUALITY REQUIREMENTS SET FORTH IN THE PROJECT PERMITS.
- 8. GROUND WATER MAY BE PUMPED TO INFILTRATION AREAS AND DISCHARGED THROUGH AN ENERGY DISSIPATOR, LEVEL SPREADER, SILT BAGS, OR OTHER METHODS AS APPROVED BY THE PROJECT REPRESENTATIVE. WATER DISCHARGED OR INFILTRATED IN WATER MANAGEMENT AREAS AS SHOWN ON THE DRAWINGS SHALL NOT CAUSE EROSION OR RESULT IN TURBIDITY IMPACTS TO THE CEDAR RIVER.
- 9. GROUND WATER MAY NOT BE PUMPED DIRECTLY TO WETLANDS OR NEW OR EXISTING CHANNELS WITHOUT PRIOR APPROVAL FROM THE PROJECT REPRESENTATIVE. WATER SHALL BE DISCHARGED IN ACCORDANCE WITH THE PLANS, SPECIFICATIONS AND PERMITS.
- 10. THE PROJECT REPRESENTATIVE SHALL BE NOTIFIED 24 HOURS IN ADVANCE OF ANY WATER PUMPING ACTIVITIES.
- 11. CONSTRUCTION DEWATERING SHALL BE MAINTAINED 24 HOURS PER DAY DURING CONSTRUCTION AND MONITORED BY THE CONTRACTOR DURING NON-WORKING
- 12. THE IMPLEMENTATION OF WATER MANAGEMENT PLANS AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT, AND UPGRADING OF WATER MANAGEMENT FACILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR UNTIL ALL CONSTRUCTION IS APPROVED.
- 13. EXCAVATIONS BELOW THE GROUNDWATER ELEVATION SHALL BE BACKFILLED BEFORE THE END OF THE WORK DAY.



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				PROJECT MANAGER:	DAN HECKENDORF, PE	SOURCE No.
				PROJECT ECOLOGIST:_	THOMAS BANNISTER, PWS	PROJECT No. 1131550
				DESIGNED: _	JERRY SCHELLER, PE	1 1100201 1101
				l _	ALEX BUESCHER, PE	CONTRACT No. E00599E19
NUM.	RECORD CHANGES APPROVED	BY	DATE	REVIEWED:	SELENE FISHER, PE	
				CAD DESIGN:	NADINE STOCK, PE	



PLACE/REMOVE ALLUVIUM AS

ISOLÁTION SYSTEM INSTALLATION/REMOVAL.

LAST/FIRST STEP OF BULK BAG

ONLY INSTALL SINGLE BULK BAG ISOLATION WHERE WATER DEPTH EXPECTED TO BE LESS THAN 2 FT. IF

GREATER THAN 2 FT. SEE DETAIL 3.

TRANSITION LINER FROM EXTERIOR

(UPSTREAM END) OF ISOLATION TO

APPROXIMATELY 1/2 THE LENGTH OF

THE ISOLATION WHERE RIVER WATER

INFILTRATION INTO THE WORK AREA

TRANSITION ISOLATION HEIGHT INTO

TRANSITIONS TO EXFILTRATION.

BANKS USING SAND BAGS.

INTERIOR OF ISÓLATION







Water and Land Resources Division River and Floodplain Management Section

Christie True, Director

JAN ROAD LEVEE SETBACK PROJECT

SHEET 14

TESC AND WATER MANAGEMENT NOTES AND DETAILS

SHEETS EC3

TESC AND ACCESS NOTES

- 1. ALL TESC MEASURES SHALL COMPLY WITH THE KING COUNTY SWDM, CSWPPP, AND WQMP
- 2. THE TESC FACILITIES SHOWN ON THIS SHEET ARE THE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS DURING THE CONSTRUCTION PERIOD, THESE TESC FACILITIES SHALL BE UPGRADED WITH CHANGING SITE CONDITIONS.
- 3. THE IMPLEMENTATION OF TESC PLANS AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT, AND UPGRADING OF THE TESC FACILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR UNTIL ALL CONSTRUCTION IS FINISHED AND THE CONSTRUCTION
- STABILIZED CONSTRUCTION ENTRANCES AND ROADS SHALL BE INSTALLED AT THE BEGINNING OF CONSTRUCTION AND MAINTAINED FOR THE DURATION OF THE PROJECT. ADDITIONAL MEASURES, SUCH AS WASH PADS, MAY BE REQUIRED TO ENSURE THAT ALL PAVED AREAS ARE KEPT CLEAN FOR THE DURATION OF THE PROJECT. WASH PADS ARE NOT PERMITTED TO DISCHARGE TO WETLANDS, STREAMS, SIDE CHANNELS, OR CEDAR RIVER.
- THE TESC FACILITIES SHOWN ON THESE PLANS MUST BE CONSTRUCTED PRIOR TO OR IN CONJUNCTION WITH ALL CLEARING, GRUBBING, AND GRADING SO AS TO ENSURE THAT THE TRANSPORT OF SEDIMENT TO SURFACE WATERS, DRAINAGE SYSTEMS, AND ADJACENT PROPERTIES IS MINIMIZED.
- 6. THE TESC FACILITIES SHALL BE INSPECTED DAILY BY THE CSWPPP SUPERVISOR AND MAINTAINED AS NECESSARY FOR
- ALL IN-RIVER WATER WORK SHALL COMPLY WITH THE WDFW HPA CONDITIONS AND OTHER PERMIT CONDITIONS. THE CONTRACTOR SHALL MAINTAIN WATER QUALITY STANDARDS AT ALL TIME.
- 8. EQUIPMENT USED FOR THE PROJECT SHALL BE FREE OF EXTERNAL PETROLEUM-BASED PRODUCTS WHILE WORKING NEAR ANY SURFACE WATER OR WETLANDS. ACCUMULATION OF SOILS OR DEBRIS SHALL BE REMOVED FROM THE DRIVE MECHANISMS (WHEELS, TRACKS, TIRES, ETC.) AND UNDERCARRIAGE OR EQUIPMENT PRIOR TO ITS WORKING BELOW THE OHW
- 9. EQUIPMENT SHALL BE CHECKED DAILY FOR LEAKS, AND ANY NECESSARY REPAIRS SHALL BE COMPLETED PRIOR TO COMMENCING WORK ACTIVITIES. SPILL KITS SHALL BE ACCESSIBLE AT ALL TIMES TO EQUIPMENT OPERATORS.
- 10. CONTRACTOR IS RESPONSIBLE TO ENSURE THAT NO PETROLEUM PRODUCTS, HYDRAULIC FLUID, SEDIMENT-, SEDIMENT-LADEN WATER, CHEMICALS, OR ANY OTHER TOXIC OR DELETERIOUS MATERIALS ARE ALLOWED TO ENTER OR LEACH INTO THE RIVER, GROUNDWATER, OR WETLANDS.
- 11. COVER, CONTAINMENT, AND PROTECTION FROM VANDALISM SHALL BE PROVIDED FOR ALL CHEMICALS, LIQUID PRODUCTS, PETROLEUM PRODUCTS, AND NON-INERT WASTE PRESENT ON THE SITE (SEE CHAPTER 173-304 WAC FOR DEFINITION OF INERT WASTE). ONSITE FUELING TANKS SHALL INCLUDE SECONDARY CONTAINMENT.
- 12. IF AT ANY TIME, AS A RESULT OF PROJECT ACTIVITIES, FISH ARE OBSERVED IN DISTRESS, A FISH KILL OCCURS, OR WATER QUALITY PROBLEMS DEVELOP (INCLUDING EQUIPMENT LEAKS OR SPILLS), OPERATIONS SHALL CEASE AND THE PROJECT REPRESENTATIVE NOTIFIED IMMEDIATELY. WASHINGTON DEPARTMENT OF FISH AND WILDLIFE AND WASHINGTON DEPARTMENT OF ECOLOGY WILL BE CONTACTED IMMEDIATELY BY THE PROJECT REPRESENTATIVE. WORK SHALL NOT RESUME UNTIL FURTHER APPROVAL BY THE PROJECT REPRESENTATIVE.
- 13. EROSION CONTROL METHODS SHALL BE USED TO PROTECT WATERS OF THE STATE. MEASURES SHOWN ON THE DRAWINGS ARE INITIAL AND ADDITIONAL MEASURES MAY BE REQUIRED BASED ON MEANS AND METHODS.
- 14. ALTERATION OR DISTURBANCE OF THE BANK AND BANK VEGETATION SHALL BE MINIMIZED TO THAT NECESSARY FOR THE
- 15. IF HIGH FLOW CONDITIONS THAT MAY CAUSE SILTATION OR EROSION ARE ENCOUNTERED DURING CONSTRUCTION, WORK SHALL STOP UNTIL THE FLOW SUBSIDES.
- 16. CONTRACTOR SHALL INSTALL WORK AREA ISOLATION INCLUDING BUT NOT LIMITED TO BULKBAGS. TURBIDITY CURTAIN OR APPROVED FOUAL PRIOR TO ANY IN-WATER WORK CONTRACTOR SHALL NOTIFY PROJECT REPRESENTATIVE TWO WORKING DAYS PRIOR TO ANY WORK AREA ISOLATION TO ALLOW OWNER FISH RESCUE CREWS TO MOBILIZE AND PERFORM FISH RESCUE FROM ISOLATED AREAS. CONTRACTOR SHALL ANTICIPATE UP TO 32 HOURS OF FISH RESCUE FOR ISOLATED AREAS.
- 17. EXCAVATIONS THAT HAVE THE POTENTIAL TO IMPACT THE WETTED CHANNEL OF THE CEDAR RIVER SHALL BE ISOLATED FROM THE ACTIVE CHANNEL DURING CONSTRUCTION. ISOLATION MEANS SHALL CONSIST OF TURBIDITY CURTAINS, BULK BAGS, BLADDER DAMS OR APPROVED FOUAL AS NECESSARY TO PREVENT IMPACTS TO WATER QUALITY.
- 18. CONTRACTOR SHALL LOCALLY GRADE RIVER BANK AS NEEDED FOR ACCESS. CONTRACTOR SHALL RESTORE ALL GRADES AND SEED DISTURBED AREAS AS PART OF SITE RESTORATION.
- 19. CONTRACTOR SHALL ENSURE EXCAVATOR BUCKET IS CLEAN/FREE OF SILTY OR CLAYEY SEDIMENT PRIOR TO INWATER WORK.
- 20. ALL STOCKPILED MATERIAL SHALL BE STAGED AND MAINTAINED WITH THE CONSTRUCTION LIMITS SHOWN ON THE PLANS.
- 21. EXPOSED SOILS THAT WILL NOT BE DISTURBED FOR TWO CONSECUTIVE DAYS DURING THE WET SEASON (OCTOBER 1 TO APRIL 30) OR SEVEN CONSECUTIVE DAYS IN THE DRY SEASON (MAY 1 TO SEPTEMBER 30) SHALL BE IMMEDIATELY STABILIZED WITH ESC MEASURES (E.G. SEEDING, MULCHING, PLASTIC COVERING).
- 22. PRIOR TO THE BEGINNING OF THE WET SEASON (OCT. 1), ALL DISTURBED AREAS SHALL BE REVIEWED TO IDENTIFY WHICH AREAS CAN BE SEEDED IN PREPARATION FOR WINTER RÁINS. DISTURBED AREAS SHALL BE SEEDED WITHIN ONE WEEK OF THE BEGINNING OF THE WET SEASON.

- 23. ESC FACILITIES SHALL BE INSPECTED AND MAINTAINED WITHIN TWENTY FOUR (24) HOURS FOLLOWING A STORM EVENT.
- 24. AT COMPLETION OF CONSTRUCTION, CONTRACTOR SHALL BACKBLADE TO MATCH EXISTING GRADE AND REPAIR SOFT SPOTS BY REPLACING SUITABLE NATIVE MATERIAL.
- 25. WRITTEN RECORDS SHALL BE KEPT OF WEEKLY REVIEWS OF THE ESC FACILITIES.
- 26. ALL TREES NOT SPECIFIED FOR REMOVAL SHALL BE PROTECTED DURING CONSTRUCTION. UNLESS WRITTEN APPROVAL FOR REMOVAL IS OBTAINED FROM THE PROJECT REPRESENTATIVE.



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VERTICAL: NAVD 1988 HORIZONTAL: NAD 1983/1991

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				APPROVED:_	CHRIS BRUMMER, PE	FUNDING
				PROJECT MANAGER:	DAN HECKENDORF, PE	SOURCE No.
				PROJECT ECOLOGIST:	THOMAS BANNISTER, PWS	PROJECT No. 1131550
				DESIGNED: _	JERRY SCHELLER, PE	
				_	ALEX BUESCHER, PE	CONTRACT No. E00599E19
NUM.	RECORD CHANGES APPROVED	BY	DATE	REVIEWED:	SELENE FISHER, PE	
				CAD DESIGN:	NADINE STOCK, PE	









Christie True, Director

River and Floodplain Management Section

JAN ROAD LEVEE SETBACK PROJECT

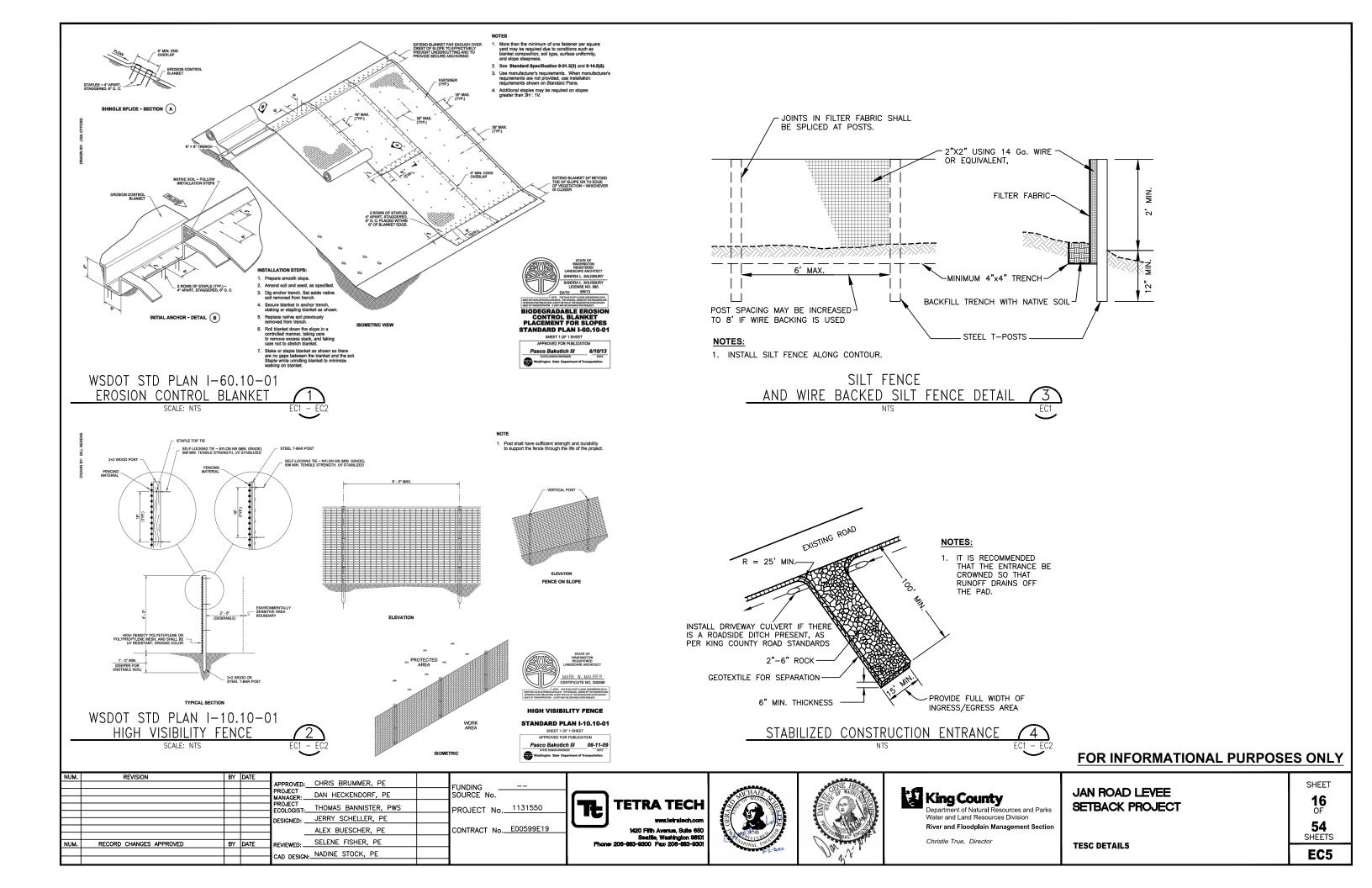
TESC NOTES

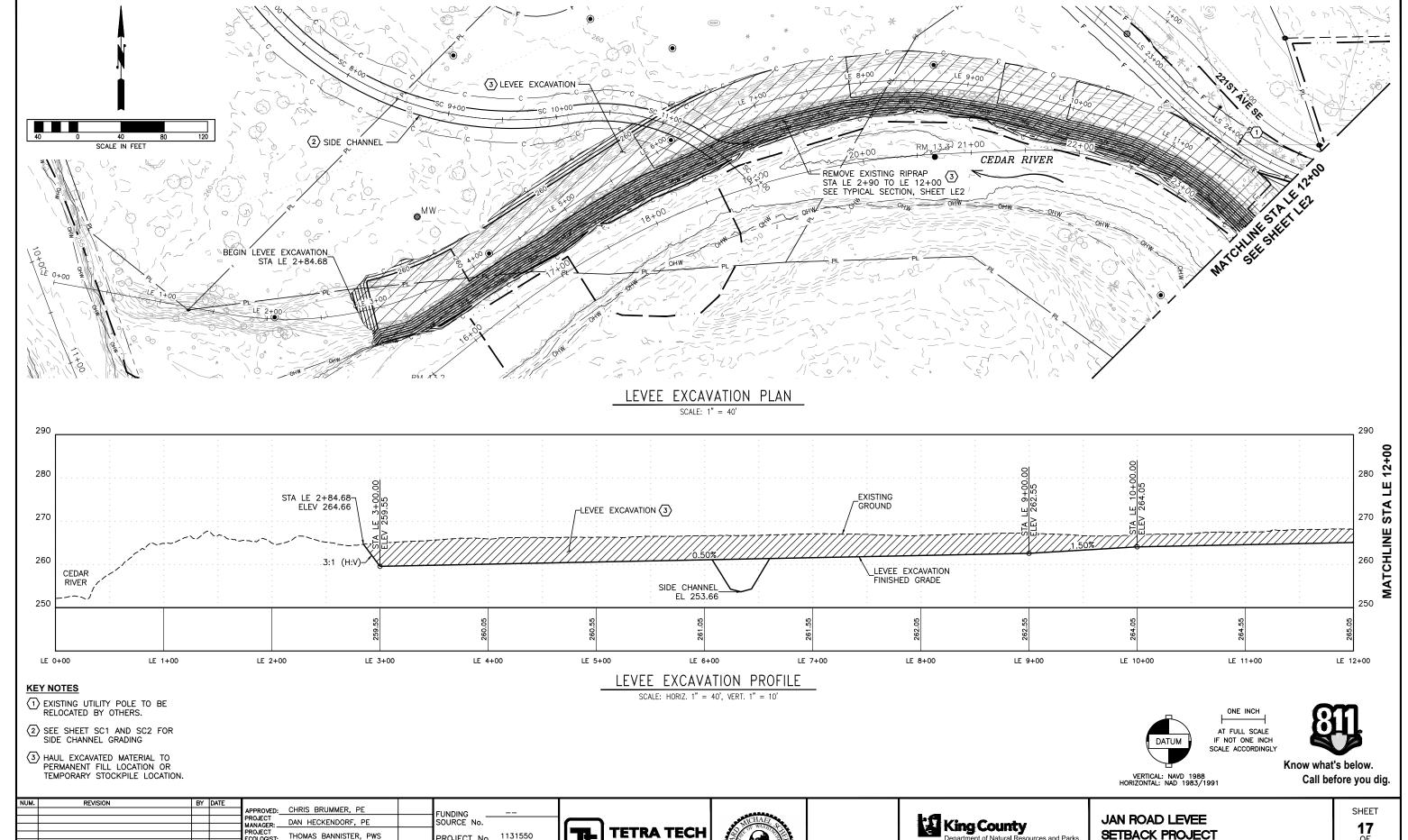
54 SHEETS

SHEET

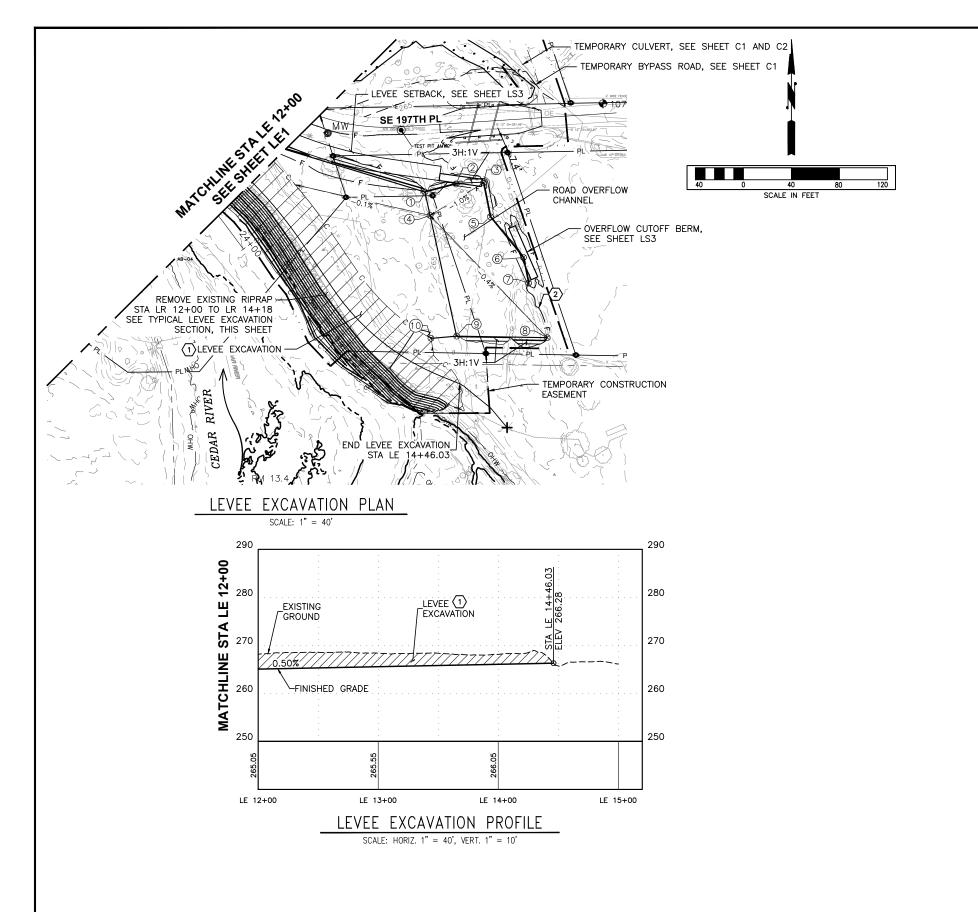
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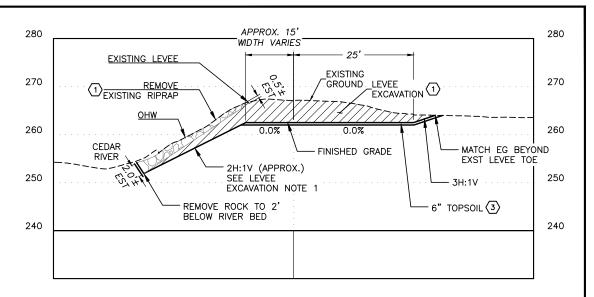
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	UM. REVISION I	BY DATE	PROJECT MANAGER: _ PROJECT ECOLOGIST:	THOMAS BANNISTER, PWS	FUNDING SOURCE No. PROJECT No	TETRA TECH	AND THE PROPERTY OF THE PROPER	King County Department of Natural Resources and Parks	JAN ROAD LEVEE SETBACK PROJECT	SHEET 17 OF
E			-	JERRY SCHELLER, PE ALEX BUESCHER, PE SELENE FISHER, PE	CONTRACT No. E00599E19	www.tetratech.com 1420 Fifth Avenue, Suite 650 Seatite, Washington 58101 Phone: 206-883-9300 Fax: 206-883-9301	思	Water and Land Resources Division River and Floodplain Management Section Christie True, Director		54 SHEETS
E	UM. RECORD CHANGES APPROVED [BY DATE	REVIEWED: _	NADINE STOCK, PE		Phone 206-883-9300 Fax 206-883-9301	3/ONAL ES - 2012	omate rae, bileder	LEVEE EXCAVATION PLAN AND PROFILE 1	LE1







LEVEE EXCAVATION NOTES

 RIPRAP SECTION PER AS-BUILTS (CIRCA 1960'S). ACTUAL RIPRAP SECTION MAY DIFFER FROM PLANS.

KEY NOTES

- 1 HAUL EXCAVATED MATERIAL TO PERMANENT FILL LOCATION OR TEMPORARY STOCKPILE LOCATION.
- 2 FILL DEPRESSION TO ELEVATION 265.80
- (3) DECOMPACT ALL AREAS RECEIVING TOPSOIL PLACEMENT IN ACCORDANCE WITH SECTION 31 22 19.

ROAD C	ROAD OVERFLOW CHANNEL GRADING POINT TABLE										
POINT ID	NORTHING	EASTING	ELEVATION	DESC							
1)	157356.94	1340287.55	265.80	FG							
2	157363.64	1340313.58	265.80	FG							
3	157364.56	1340336.36	265.80	FG							
4	157337.41	1340291.86	265.30	FG							
5	157336.34	1340342.02	± 265.80	FG							
6	157302.39	1340369.62	± 265.80	FG							
7	157281.05	1340373.91	± 265.80	MEG							
8	157235.58	1340389.42	± 265.80	MEG							
9	157236.87	1340314.00	265.80	MEG							
10	157235.05	1340292.61	266.08	MEG							



ONE INCH

AT FULL SCALE
IF NOT ONE INCH
SCALE ACCORDINGLY

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NUM.	REVISION	DV	DATE				_
NOM.	REVISION	ы	DATE	APPROVED:	CHRIS BRUMMER, PE	51,110,110	
				PROJECT MANAGER:	DAN HECKENDORF, PE	FUNDING SOURCE No.	1
				PROJECT ECOLOGIST:	THOMAS BANNISTER, PWS	PROJECT No. 1131550	IJľ
\vdash		+		DESIGNED:	JERRY SCHELLER, PE		Ш
					ALEX BUESCHER, PE	CONTRACT No. E00599E19	լ`
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				CAD DESIGN:	NADINE STOCK, PE		ı
I 1							







River and Floodplain Management Section

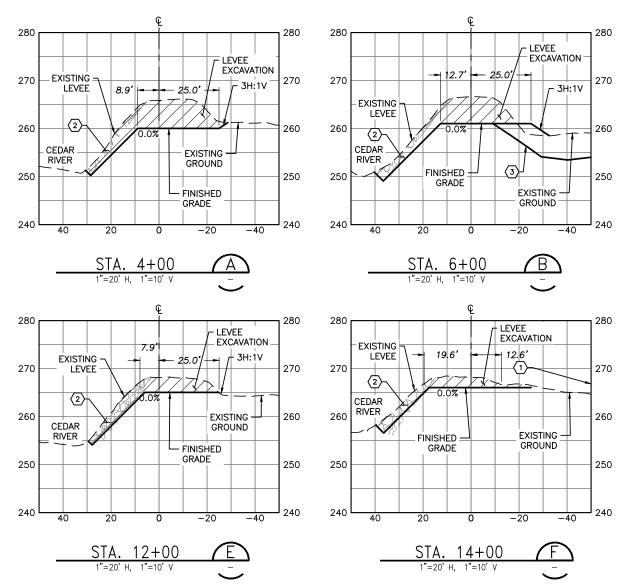
Christie True, Director

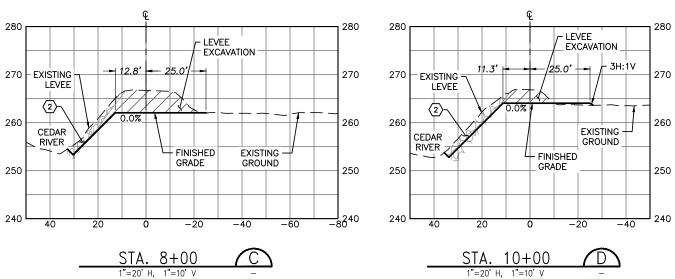
JAN ROAD LEVEE SETBACK PROJECT

LEVEE EXCAVATION PLAN AND PROFILE 2

18 0F 54

SHEETS LE2





LEVEE EXCAVATION KEY NOTES:

- T) FG CONTINUES. SEE SHEET LE2 FOR SPOT ELEVATIONS.
- 2 REMOVE EXISTING RIPRAP.
- 3. SIDE CHANNEL.

 (3) SEE SHEET SC1.



VERTICAL: NAVD 1988 HORIZONTAL: NAD 1983/1991

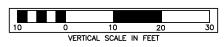
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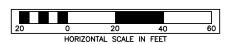
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SCALE ACCORDINGLY

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				APPROVED:_	CHRIS BRUMMER, PE	FUNDING	
				PROJECT MANAGER:	DAN HECKENDORF, PE	SOURCE No.	11
				PROJECT ECOLOGIST:_	THOMAS BANNISTER, PWS	PROJECT No. 1131550	
\vdash				DESIGNED: _	JERRY SCHELLER, PE	1	П
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Department of Natural Resources and Parks Water and Land Resources Division River and Floodplain Management Section

Christie True, Director

JAN ROAD LEVEE
SETBACK PROJECT

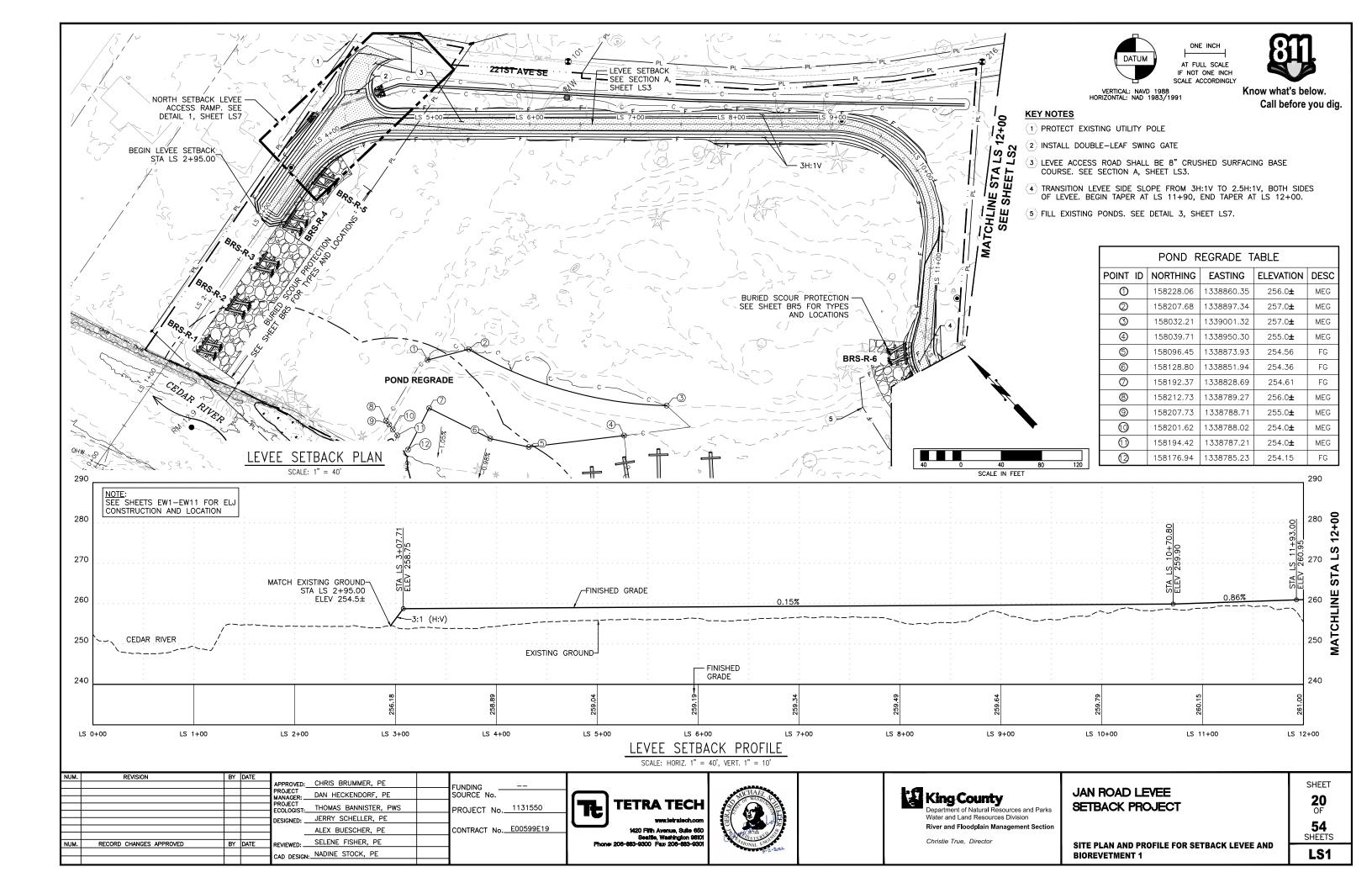
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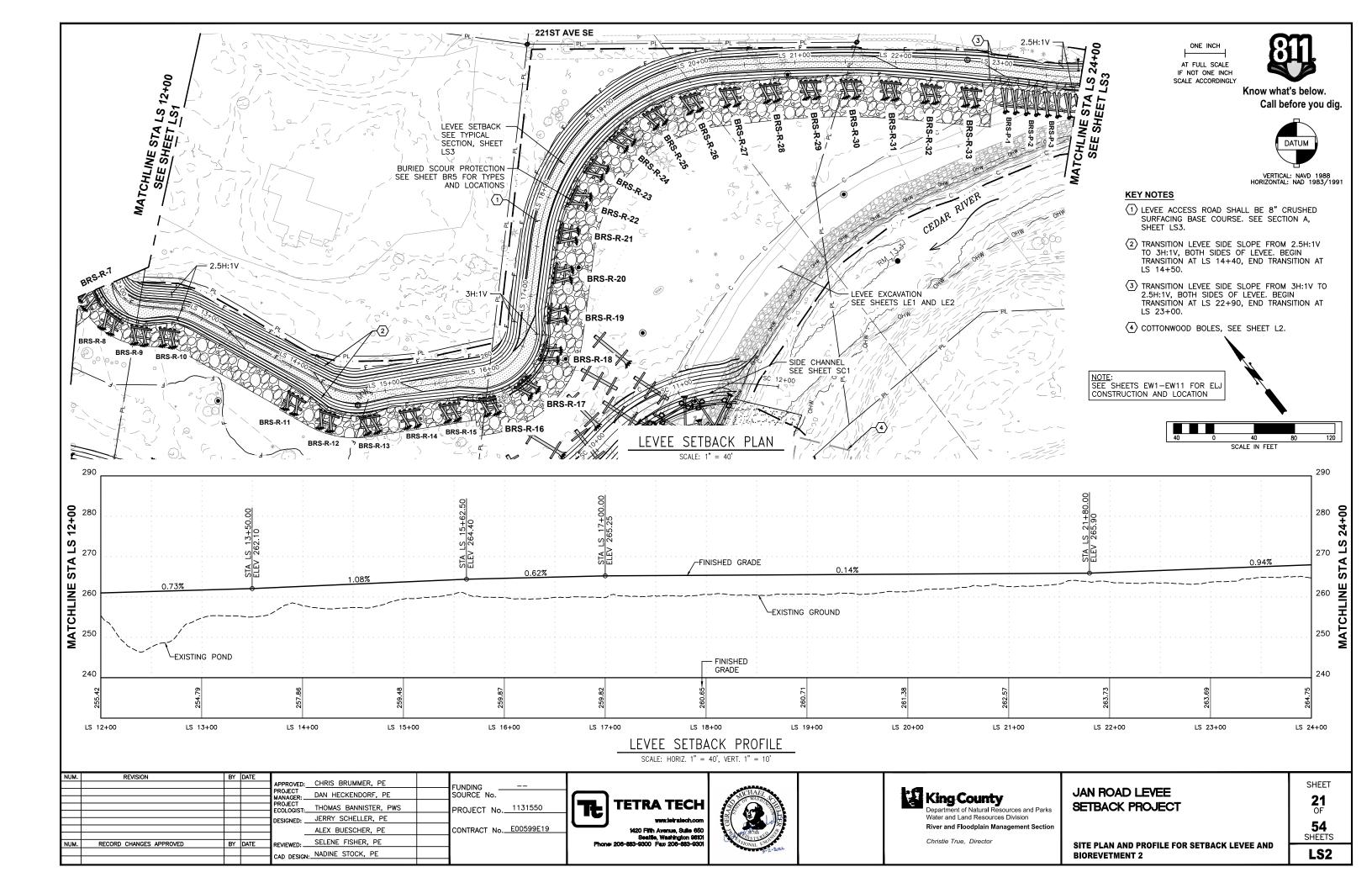
SHEET 19 OF

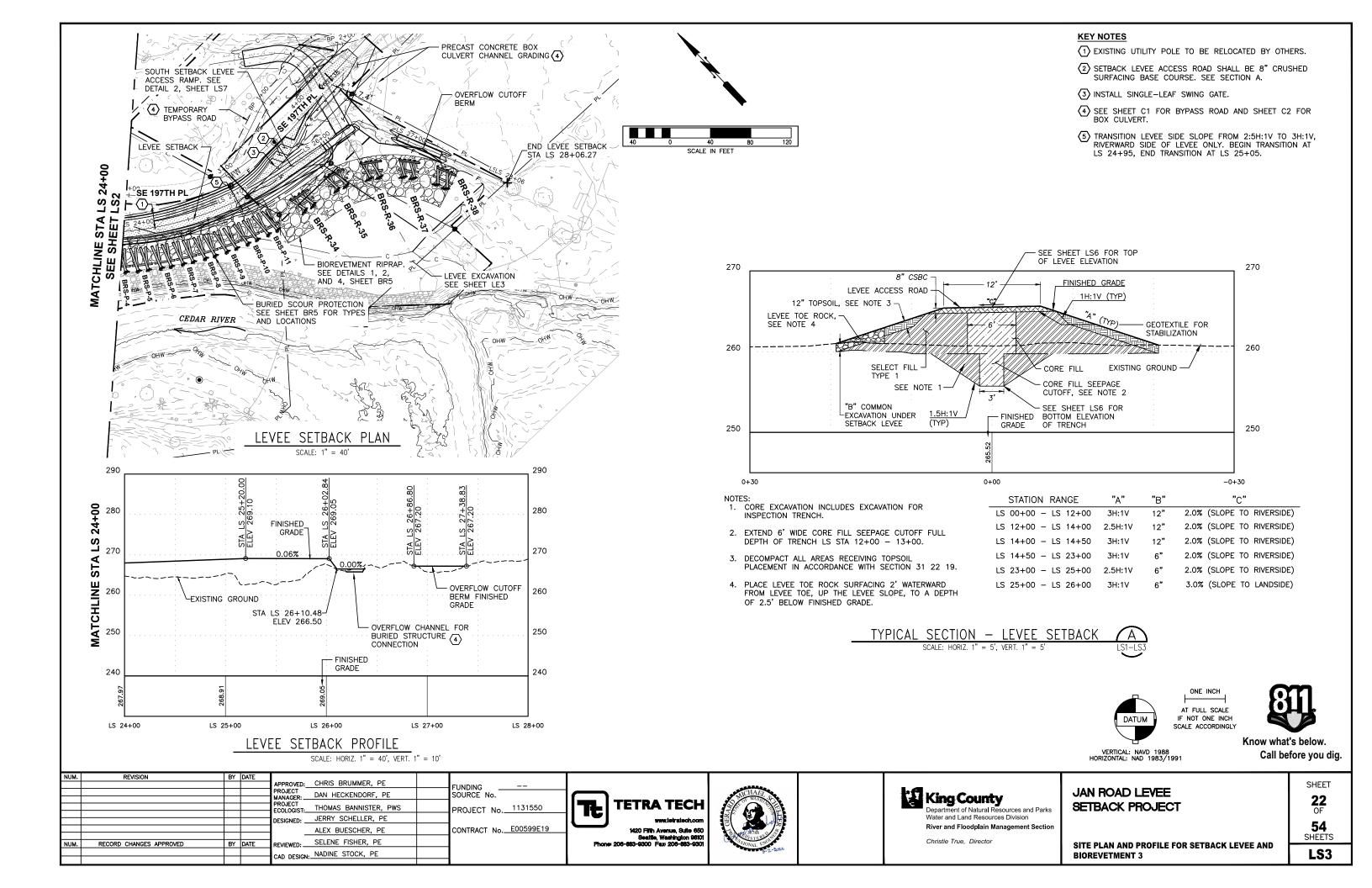
LEVEE EXCAVATION CROSS SECTIONS

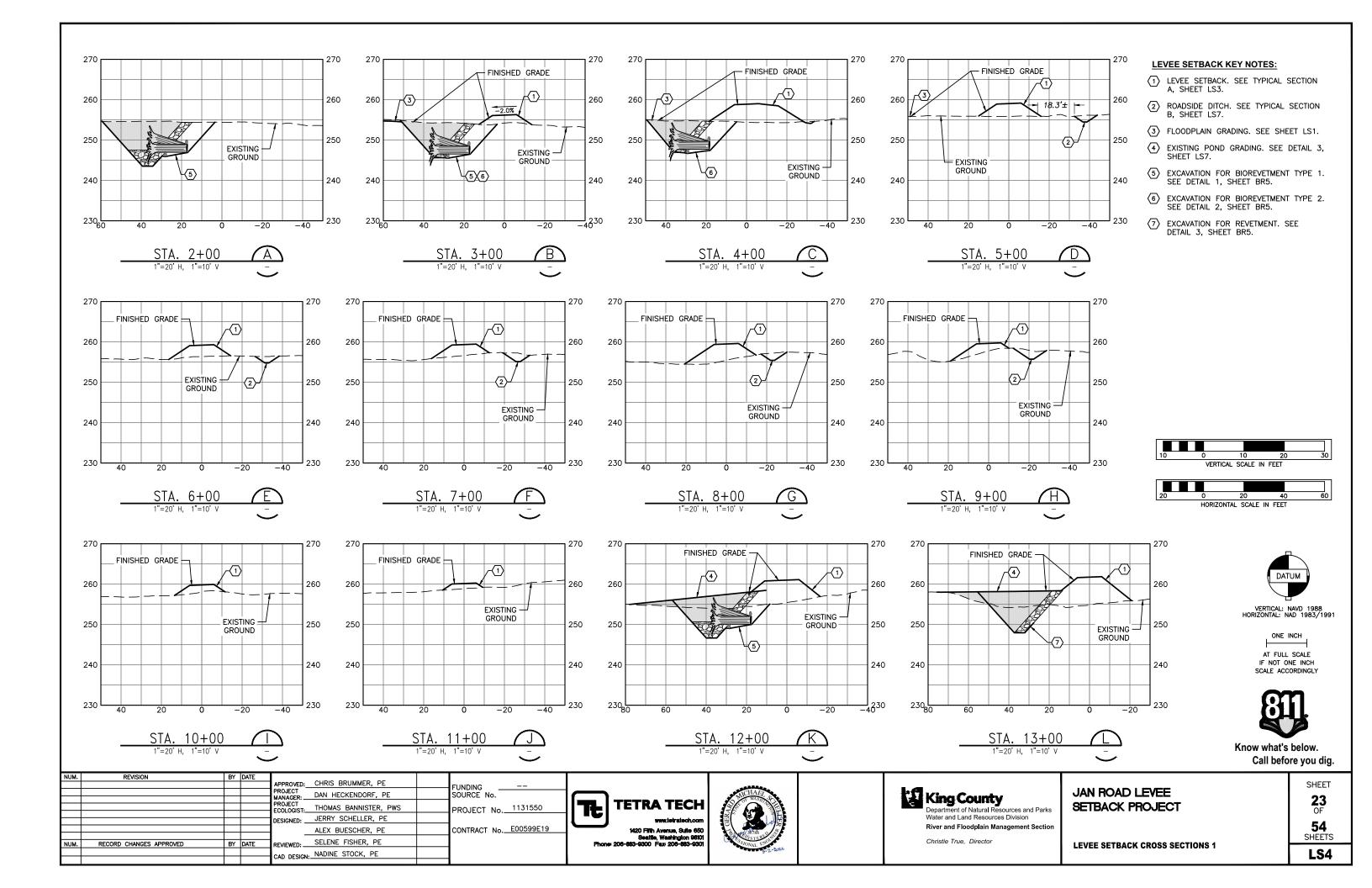
SHEETS LE3

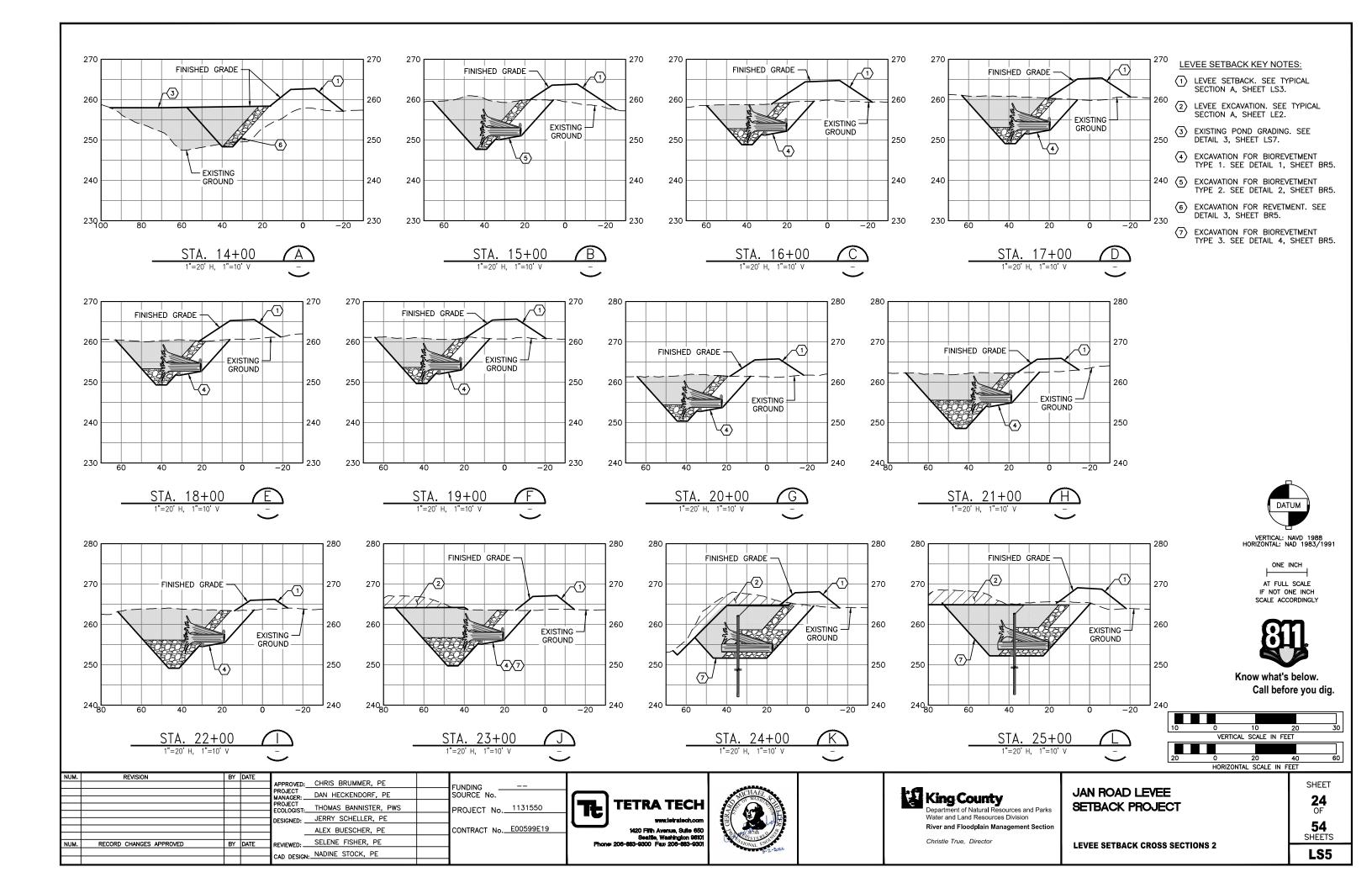
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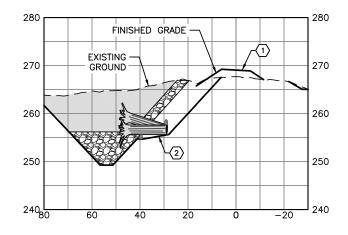


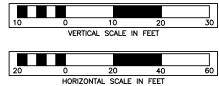












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LEVEE SETBACK QUANTITIES CORE FILL SELECT FILL TOPSOIL TOE ROCK COMMON EXCAVATION CSBC Elevations STATION END AREA (SF) END AREA (SF) END AREA (SF) END AREA (SF) VOL (CY) END AREA (SF) END AREA (SF) VOL (CY) VOL (CY) VOL (CY) VOL (CY) VOL (CY) Top of Levee Cutoff Trench @ 1.85 TN/CY @ 1.7 TN/CY 00+00 01+00 02+00 0.00 03+00 59.85 256.18 248.81 249.31 04+00 72.99 258.89 05+00 68.49 259.04 250.84 259.19 250 64 06+00 79.20 07+00 77.68 259.34 250.85 08+00 88.10 259.49 249.49 250.28 09+00 112.96 259.64 10+00 74.95 259.79 252.18 253.51 61.31 11+00 260.15 12+00 94.80 260.95 248.44 13+00 100 14 261.73 248.20 14+00 79.59 262.64 251.64 15+00 117.36 263.72 251.54 16+00 84.81 264.58 253.21 17+00 66.23 265.25 254.41 67.46 265.38 255.01 18+00 19+00 62.08 265.52 255.71 20+00 64.51 265.65 256.15 21+00 59.17 265.79 257.40 22+00 58.23 266.09 258.39 23+00 58.26 267.03 258.52 24+00 38.85 267.97 259.08 56.39 268.91 258.91 25+00 26+00 84.77 269.05 260.74 27+00 28+00 Total

NOTE: SEE SHEET BR5 FOR BIOREVETMENT QUANTITIES.

NUM.	REVISION	BY	DATE				
				APPROVED:_	CHRIS BRUMMER, PE	FUNDING	
				PROJECT MANAGER:	DAN HECKENDORF, PE	SOURCE No.	74
				PROJECT ECOLOGIST:	THOMAS BANNISTER, PWS	PROJECT No. 1131550	Ш
				DESIGNED:	JERRY SCHELLER, PE	1 1100201 1101	٦,
					ALEX BUESCHER, PE	CONTRACT No. E00599E19	ս՝
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				CAD DESIGN:	NADINE STOCK, PE		1







River and Floodplain Management Section

Christie True, Director

JAN ROAD LEVEE SETBACK PROJECT

LEVEE SETBACK CROSS SECTIONS 3

LEVEE SETBACK KEY NOTES:

SHEET LS3.

1 LEVEE SETBACK. SEE TYPICAL SECTION A,

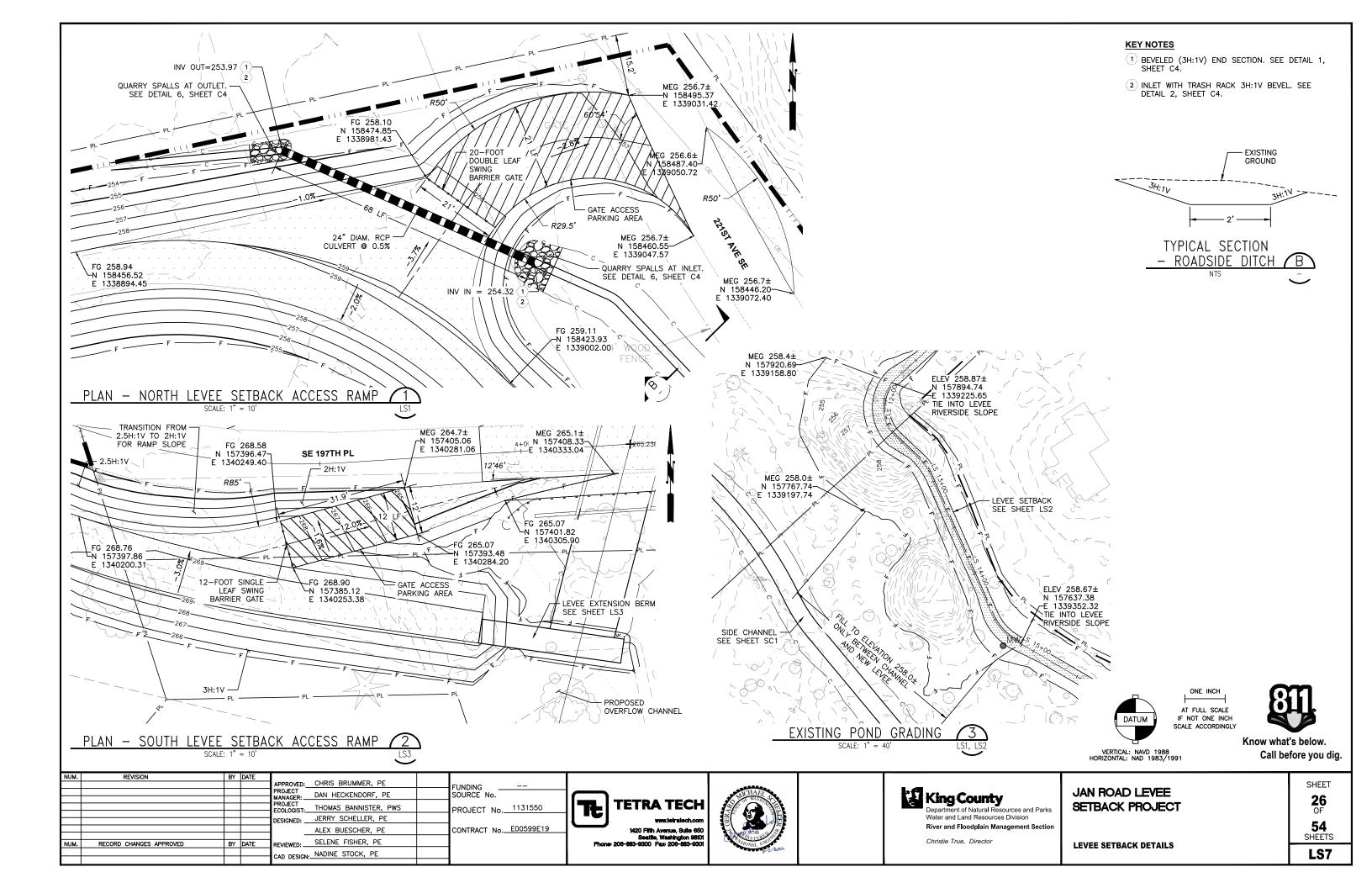
(2) EXCAVATION FOR BIOREVETMENT TYPE 1. SEE DETAIL 1, SHEET BR5.

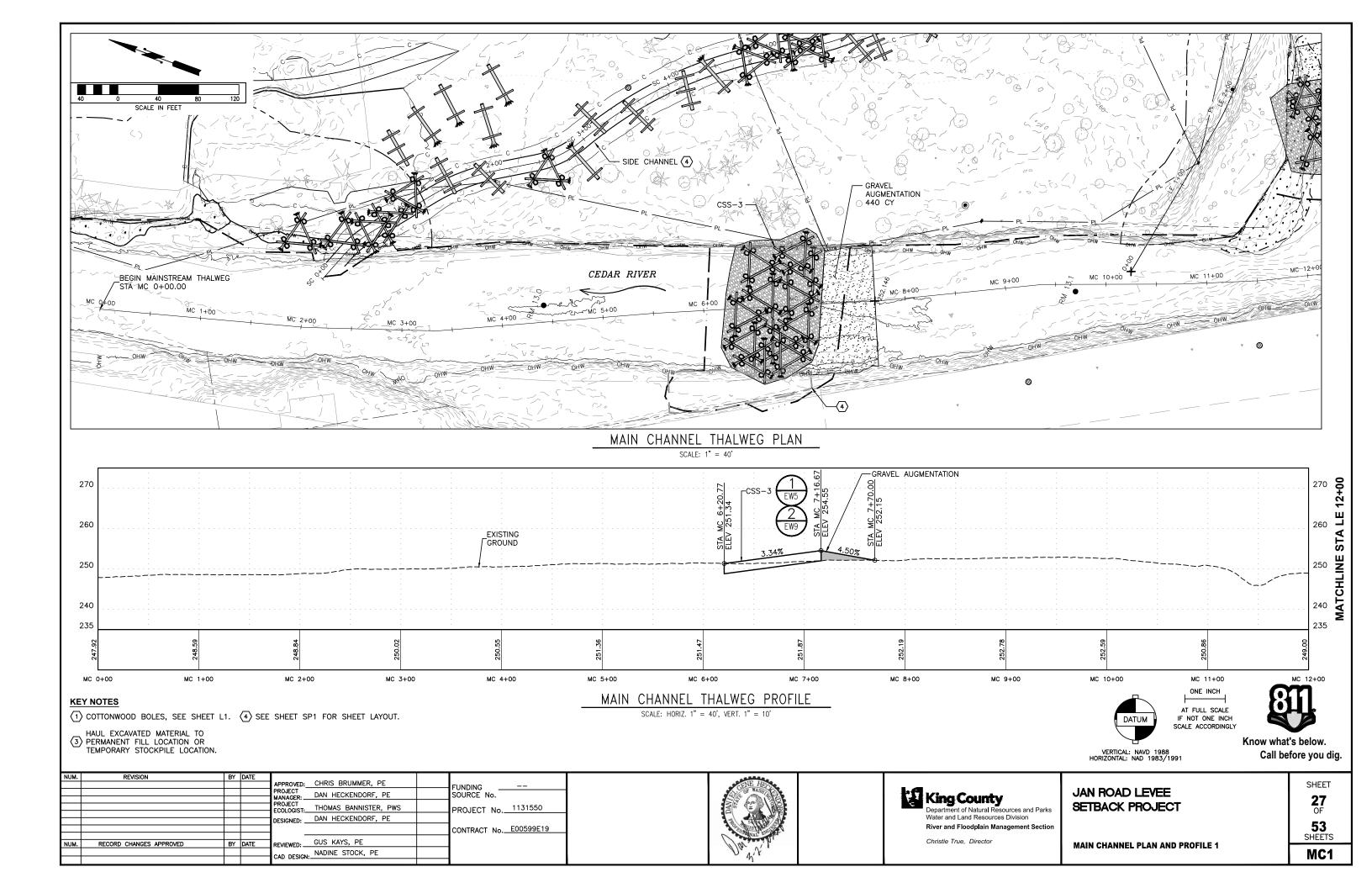
SHEET

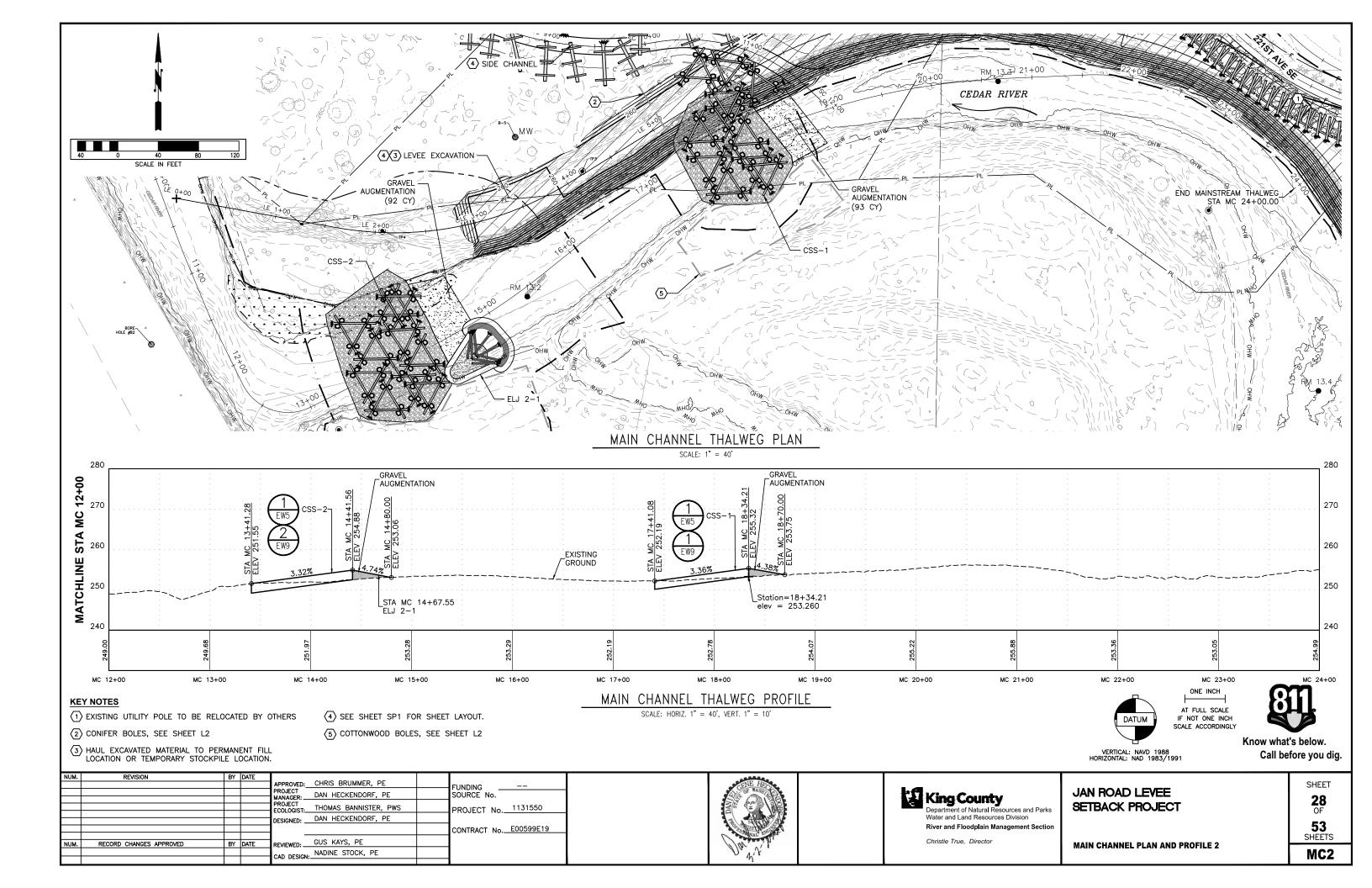
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OF

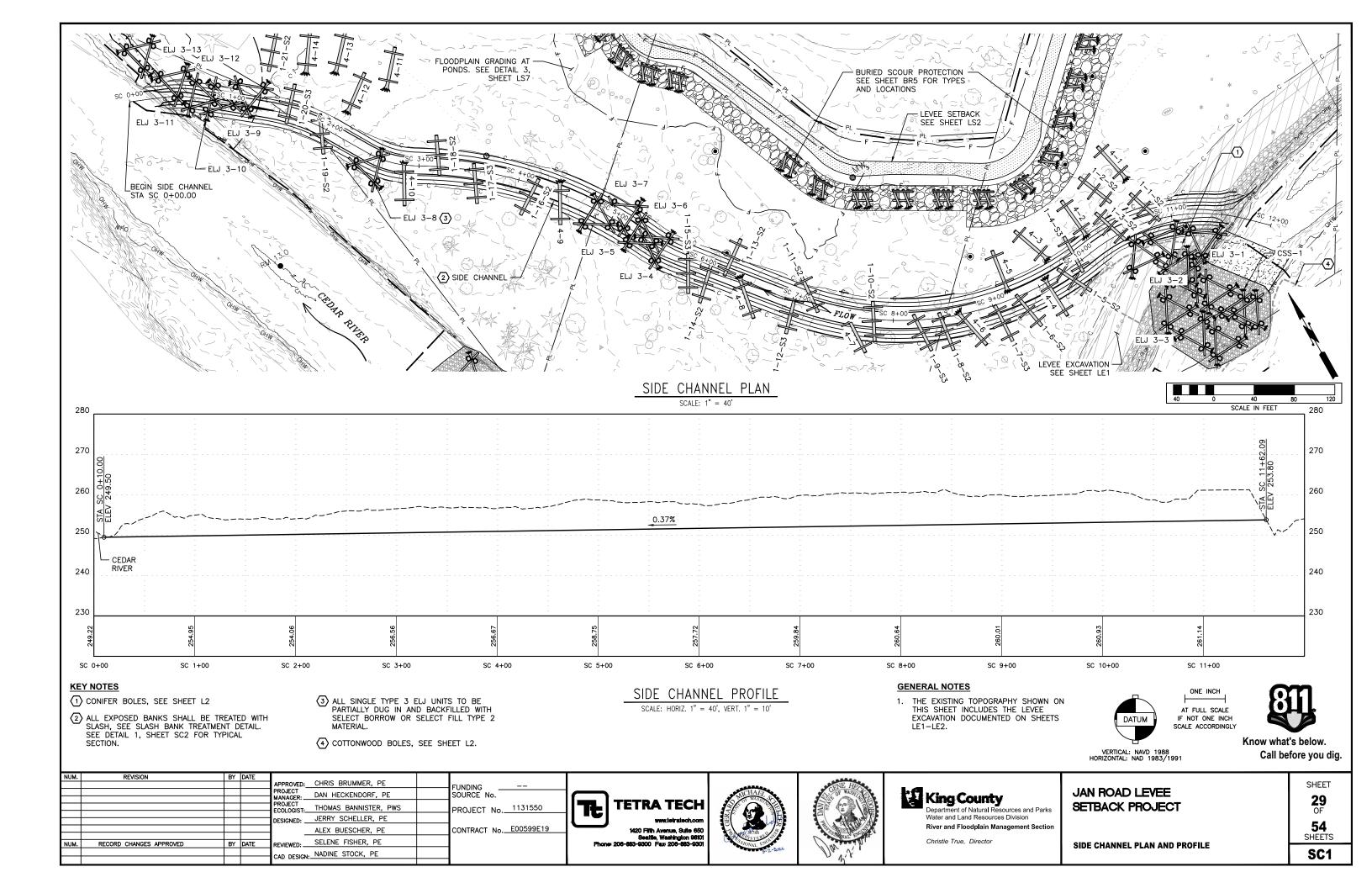
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SHEETS

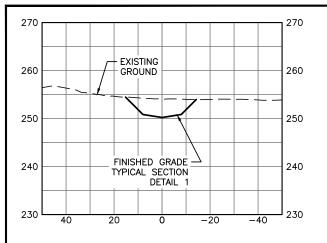
LS6

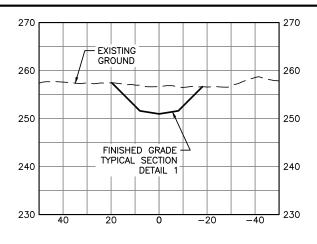


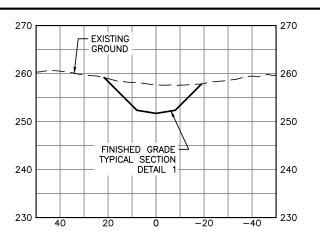


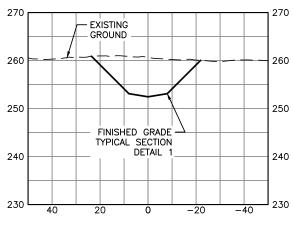


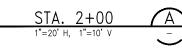


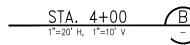


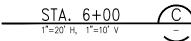


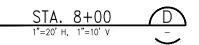


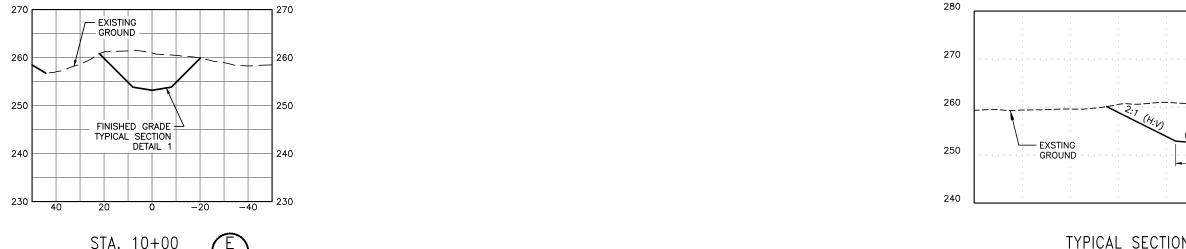


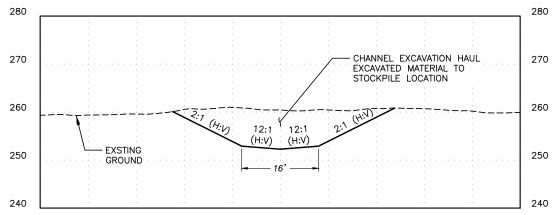


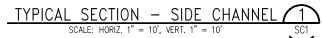












VERTICAL: NAVD 1988 HORIZONTAL: NAD 1983/1991

ONE INCH

AT FULL SCALE IF NOT ONE INCH SCALE ACCORDINGLY



				1
10	0	10	20	30
	VERTIC	AL SCALE II	N FEET	

now what's below. Call before you dig.							
Call before you dig.	20	Ó	20	40	60		
		HORIZO	NTAL SCALE	IN FEET			

NUM.	REVISION	BY	DATE						Т
				APPROVED:_	CHRIS BRUMMER, PE		FUNDING		1
				PROJECT MANAGER:	DAN HECKENDORF, PE		SOURCE No.		1
				PROJECT ECOLOGIST:	THOMAS BANNISTER, PWS		PROJECT No	1131550	Ш
		_		DESIGNED:	JERRY SCHELLER, PE				1,
					ALEX BUESCHER, PE		CONTRACT No	E00599E19	1,
NUM.	RECORD CHANGES APPROVED	BY	DATE	REVIEWED:	SELENE FISHER, PE				ı
				CAD DESIGN:	NADINE STOCK, PE				
	1		1			1			





King County
Department of Natural Resources and Water and Land Resources Division

d Parks River and Floodplain Management Section

Christie True, Director

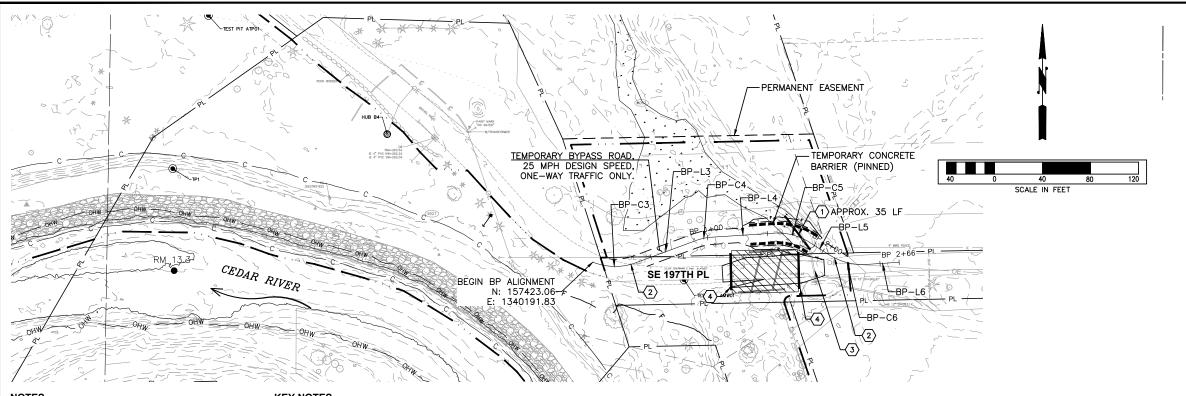
JAN ROAD LEVEE
SETBACK PROJECT

SIDE CHANNEL CROSS SECTIONS

SHEET **30** 54

SHEETS

SC2



LINE TABLE TEMPORARY BYPASS ROAD ALIGNMENT										
LINE#	BEARING	DISTANCE	START POINT	END POINT						
BP-L3	N69° 45' 30"E	52.89'	0+36.74	0+89.63						
BP-L4	N86° 17' 48"E	51.14'	1+04.06	1+55.20						
BP-L5	S57* 45' 29"E	20.26'	1+86.57	2+06.83						
BP-L6	N86° 17' 48"E	27.72'	2+38.20	2+65.92						

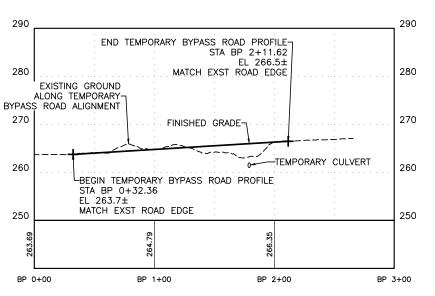
CURVE TABLE TEMPORARY BYPASS ROAD ALIGNMENT										
CURVE#	CURVE CHORD RADIUS START END ANGLE LENGTH POINT POIN									
BP-C3	114 35 30"	35.92'	50.00'	0+00.00	0+36.74					
BP-C4	114 35 30"	14.38'	50.00'	0+89.63	1+04.06					
BP-C5	114° 35' 30"	30.86'	50.00'	1+55.20	1+86.57					
BP-C6	114° 35' 30"	30.86	50.00'	2+06.83	2+38.20					

NOTES

- CONTRACTOR SHALL SUBMIT FOR APPROVAL A PROJECT SPECIFIC TRAFFIC CONTROL PLAN REFLECTING THEIR WORK ACTIVITIES.
- 2. TEMPORARY BYPASS ROAD, TEMPORARY CONCRETE BARRIER AND TEMPORARY CULVERT SHALL BE REMOVED IN ITS ENTIRETY UPON COMPLETION OF PRECAST CONCRETE BOX CULVERT CONSTRUCTION.
- 3. CONTRACTOR TO VERIFY STAKING OF TEMPORARY BYPASS ROAD WITH PROJECT REPRESENTATIVE PRIOR TO CONSTRUCTION.

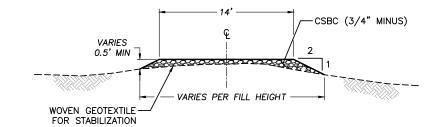
KEY NOTES

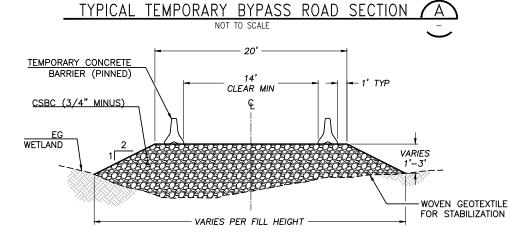
- 12" DIAM. TEMPORARY CULVERT TEMPORARILY CONNECT TO EXISTING CULVERT
- (2) FLAGGER CONTROLLED TRAFFIC DURING ALL CONSTRUCTION HOURS
- $\begin{picture}(3)\end{picture}$ Existing culvert to remain, protect during construction
- 4 TEMPORARY SHORING
 CONTRACTOR TO DESIGN TEMPORARY SHORING SYSTEM AND
 SUBMIT WORKING DRAWINGS SIGNED BY A LICENSED ENGINEER
 PER THE CONTRACT SPECIFICATIONS. INSTALLATION OF TEMPORARY
 TIEBACKS MAY BE REQUIRED, DEPENDING ON THE TEMPORARY
 SHORING SYSTEM DESIGNED BY THE CONTRACTOR.



PROFILE

SCALE: HORIZ. 1" = 40', VERT. 1" = 10'





TEMPORARY BYPASS ROAD SECTION
LOOKING EAST STA BP 4+15.8 TO STA BP 4+69.5 B

NOT TO SCALE



ONE INCH

AT FULL SCALE

IF NOT ONE INCH

SCALE ACCORDINGLY

now what's below

VERTICAL: NAVD 1988 HORIZONTAL: NAD 1983/1991	

Know what's below.
Call before you dig.

NUM.	REVISION	BY	DATE		011010 001111150 05		T
				APPROVED:_	CHRIS BRUMMER, PE	FUNDING	
				PROJECT MANAGER:	DAN HECKENDORF, PE	SOURCE No.	10
				PROJECT ECOLOGIST:_	THOMAS BANNISTER, PWS	PROJECT No. 1131550	
				DESIGNED: _	JERRY SCHELLER, PE	1	П
					KEVIN AXT, PE	CONTRACT No. E00599E19	_լ`
NUM.	RECORD CHANGES APPROVED	BY	DATE	REVIEWED:	SELENE FISHER, PE		
				CAD DESIGN:	NADINE STOCK, PE		ı
				520 /0//			



PLAN



\$	King County
~	Department of Natural Per

Department of Natural Resources and Parks Water and Land Resources Division River and Floodplain Management Section

Christie True, Director

JAN ROAD LEVEE SETBACK PROJECT

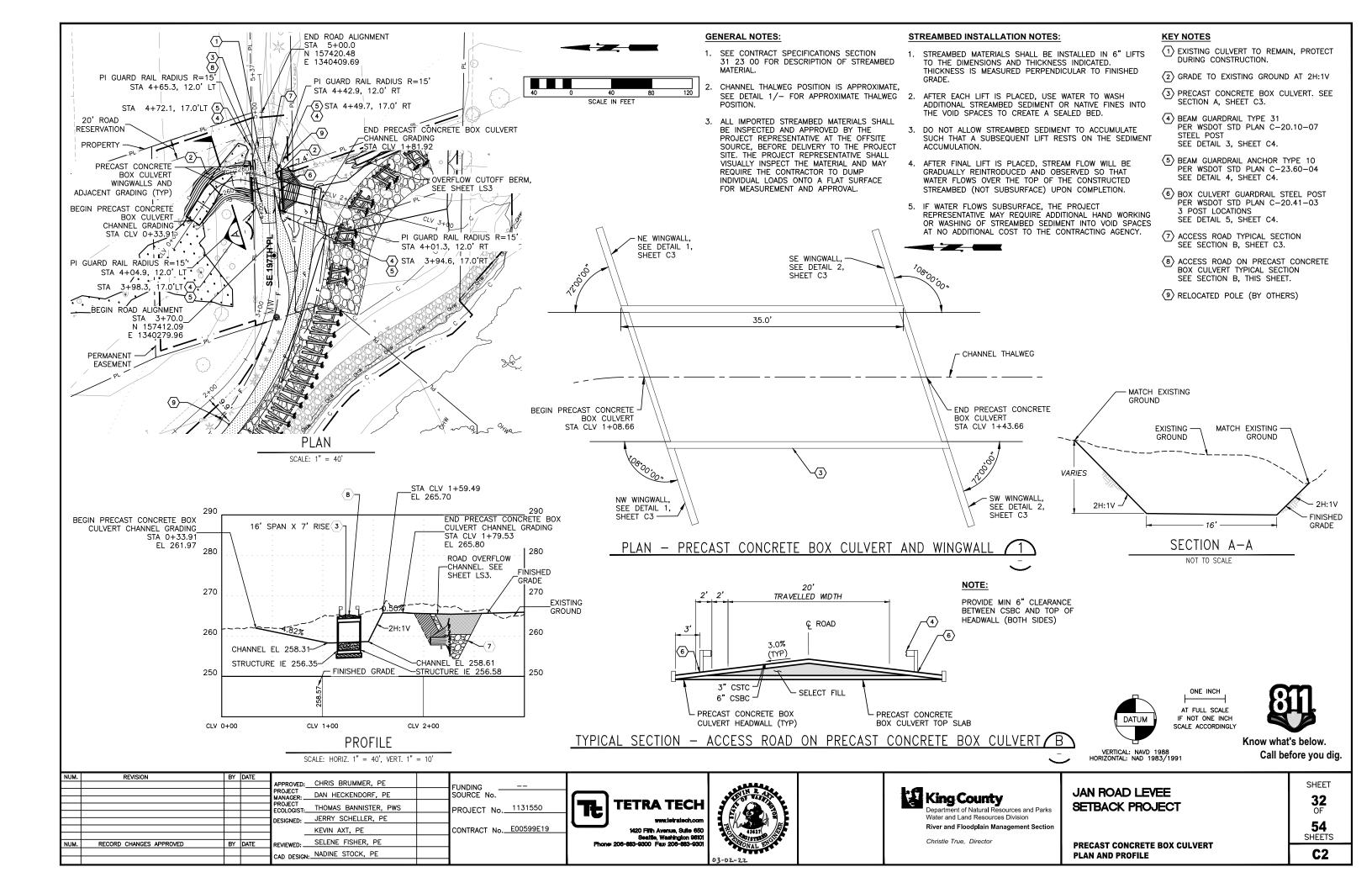
54 SHEETS

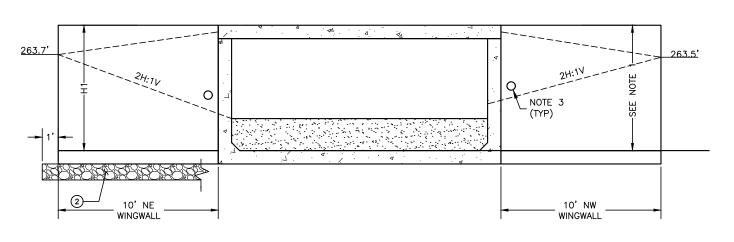
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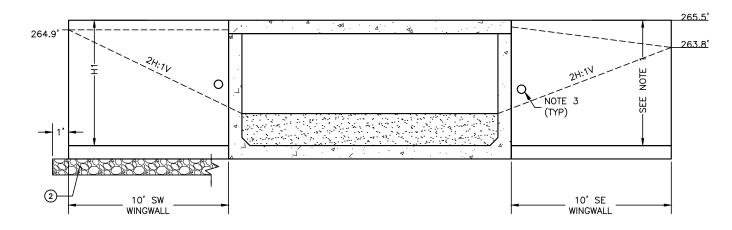
31

TEMPORARY BYPASS ROAD PLAN AND PROFILE

C1







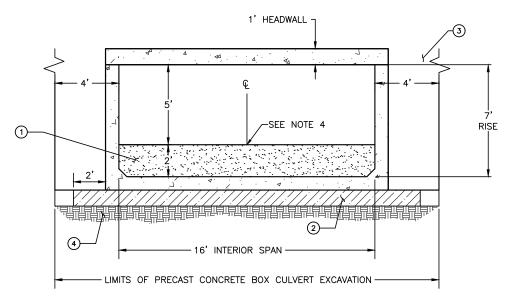
DETAIL - SOUTH WINGWALL

DETAIL - NORTH WINGWALL

WINGWALL AND HEADWALL GENERAL NOTES

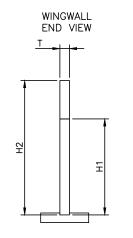
- WINGWALL HEIGHT FABRICATED TO MATCH TOP OF HEADWALL CONTRACTOR DESIGNED WEEP HOLE.
 SEE DETAIL 1, SHEET C2 FOR CHANNEL THALWEG LOCATION INSIDE CONCRETE BOX CULVERT.
- 4. PRECAST CONCRETE BOX CULVERT, WINGWALL, AND WINGWALL FOOTING (THICKNESS & WIDTH) TO BE DESIGNED BY CONTRACTOR.

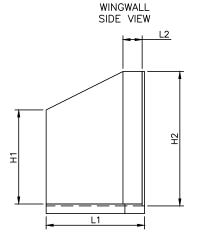
20' TRAVELLED WIDTH င့ ROAD - BEAM GUARDRAIL TYPE 31 SEE SHEET C2 (TYP) _ 3:1 MAX (TYP) 0.03 FT/FT 3" CSTC COMPACTED SUBGRADE 6" CSBC TYPICAL SECTION - ACCESS ROAD



TYPICAL	SECTION	_	PRECAST	CONCRETE	вох	CULVERT	A
		L	OOKING DOWNSTREA	AM (NORTH)			C2

WINGWALL SCHEDULE BURIED STRUCTURE CORNER CONTACT L1 (FT) L2 (FT) H1 (FT) T (IN) H2 (FT) ANGLE SEE NOTE 4 72° 00' 00" 8.9 8.9 8.9 SEE NOTE 4 108° 00' 00" 8.9 SEE NOTE 4 108° 00' 00" SEE NOTE 4 SW 10 8.9 8.9 72° 00' 00"





WINGWALL SCHEDULE

MATERIALS LEGEND

- 1 STREAMBED SEDIMENT
- 2 12" BALLAST FILL, WRAP WITH GEOTEXTILE FOR SOIL STABILIZATION
- 3 SELECT FILL TYPE 2
- 4 UNDISTURBED NATIVE MATERIAL

NUM.	REVISION	BY	DATE	CUDIC DDUMMED DE	
				APPROVED: CHRIS BRUMMER, PE FUNDING	
				PROJECT MANAGER: DAN HECKENDORF, PE SOURCE No.	
				PROJECT THOMAS BANNISTER, PWS PROJECT No. 1131550	
\vdash				DESIGNED: JERRY SCHELLER, PE	,
				KEVIN AXT, PE CONTRACT No. E00599E19	
NUM.	RECORD CHANGES APPROVED	BY	DATE	REVIEWED: SELENE FISHER, PE	
				CAD DESIGN: NADINE STOCK, PE	





_	King County Department of Natural Re
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esources and Parks Water and Land Resources Division River and Floodplain Management Section

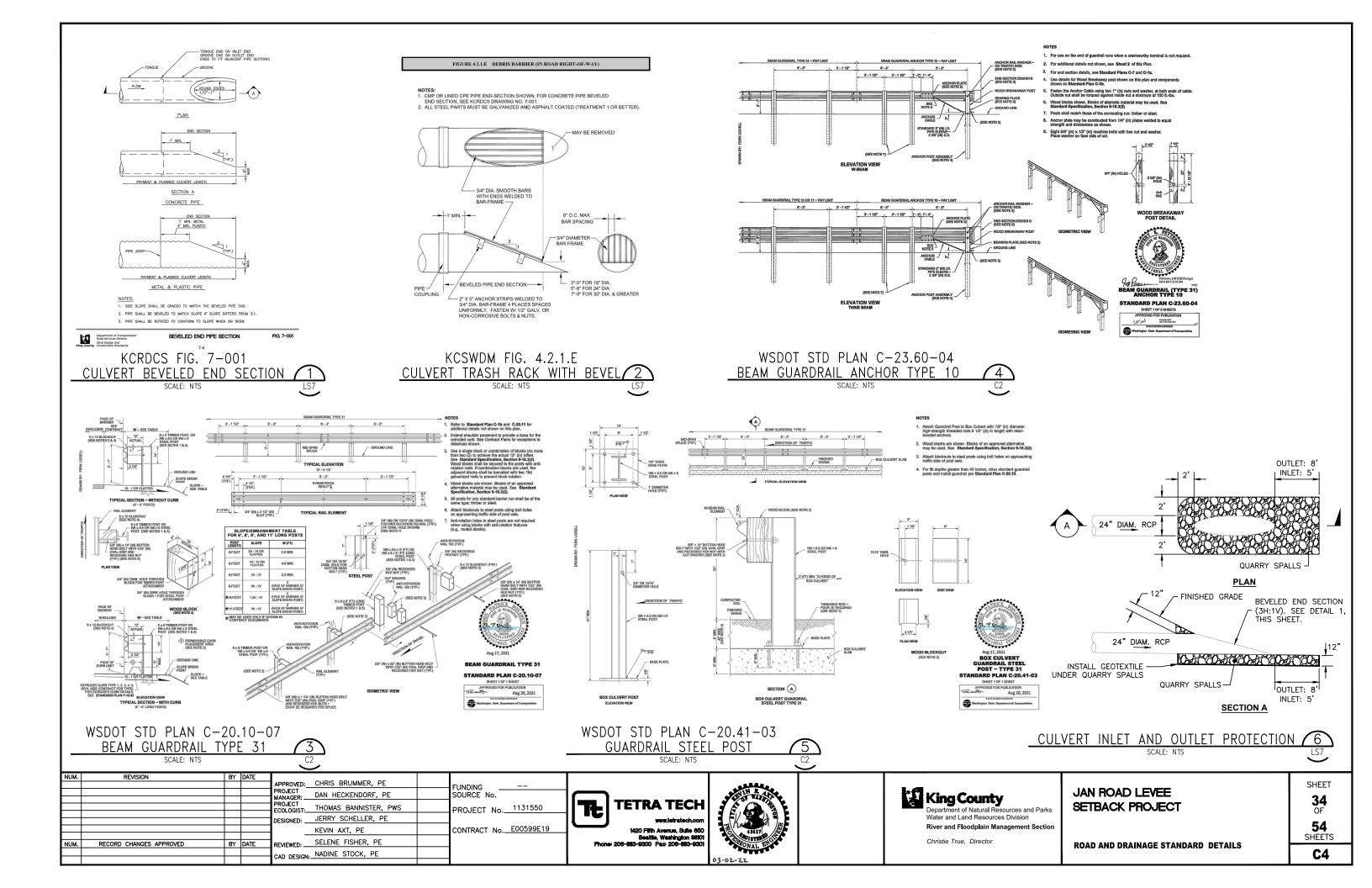
Christie True, Director

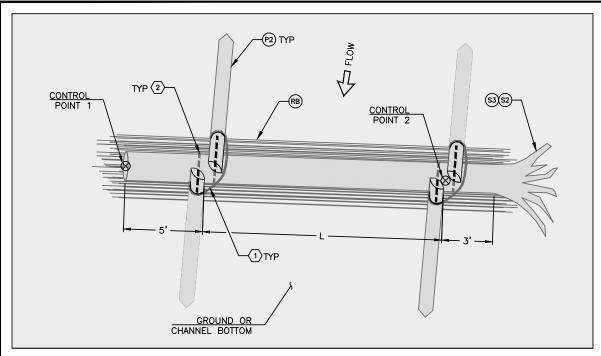
JAN ROAD LEVEE SETBACK PROJECT

PRECAST CONCRETE BOX CULVERT DETAILS

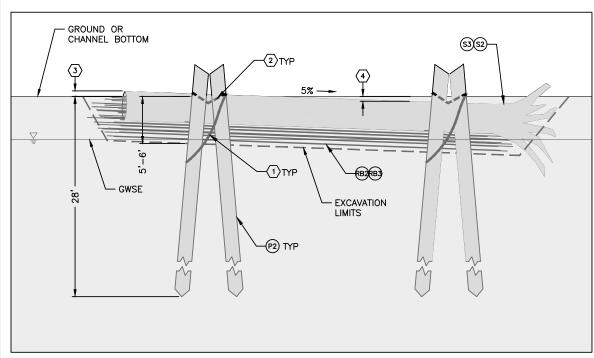
SHEET 33 54 SHEETS

C3



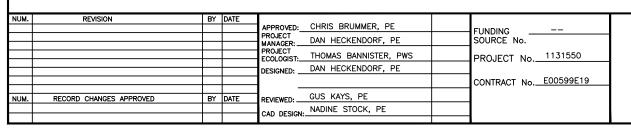


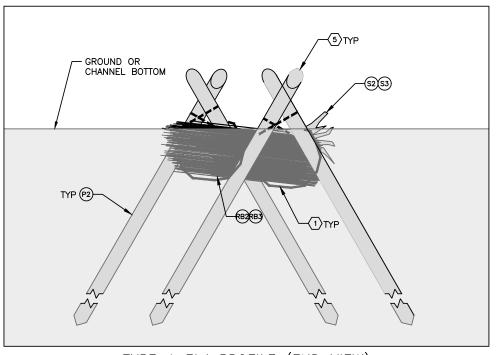
TYPE 1 ELJ PLAN SCALE: 1" = 5'



TYPE 1 ELJ PROFILE (SIDE VIEW)

SCALE: 1" = 5'





TYPE 1 ELJ PROFILE (END VIEW)

SCALE: 1" = 5'

TYPE 1 ELJ LOG SCHDULE:

LOG ID	DIA (IN)	LENGTH (FT)	ROOTWAD	MAX WEIGHT (LBS)	QUANTITY PER STRUCTURE	NOTES
®	60	40	Y/N	10000	1	RACKING BUNDLE TO BE MADE UP OF MIN 14 PIECES OF J4 RACKING LOG AND MIN 6 PIECES OF J3 RACKING ROOTWAD LOG. SEE SHEET EW8 FOR RACKING BUNDLE DETAIL.
(B3)	72	40	Y/N	12000	1	RACKING BUNDLE TO BE MADE UP OF MIN 14 PIECES OF J4 RACKING LOG AND MIN 6 PIECES OF J3 RACKING ROOTWAD LOG. SEE SHEET EW8 FOR RACKING BUNDLE DETAIL.
\$2	23–29	40	Y	_	1	
<u>\$3</u>	30-36	40	Y	_	1	
P2	16 (BUTT)	30-35	N	_	4	INSTALL AT 20 DEGREES FROM VERTICAL, SEE SHEET EW7 FOR DRIVEN TIMBER PILE DETAIL.

KEY NOTES:

- (1) LOGS TO BE SECURED AT EACH CONNECTION WITH (2) WRAPS OF 1-1/2" MANILLA ROPE AND SECURED WITH (2) CABLE CLAMPS.
- $\langle 2 \rangle$ BOLTED CONNECTION. SEE DETAIL 3, SHEET EW7.
- (3) ONE/THIRD LOG DIAMETER ABOVE GROUND OR CHANNEL BOTTOM.
- TWO/THIRDS LOG DIAMETER BELOW GROUND OR CHANNEL BOTTOM.
- (5) AFTER INSTALLATION, CUT TOPS OF PILES AT 30°-60° ANGLE. CUT SHALL OCCUR ABOVE CROSSING OF PILES.

GENERAL NOTES:

- 1. EXCAVATION LIMITS SHOWN ARE APPROXIMATE AND WILL VARY BASED ON CONSTRUCTION MEANS AND METHODS, SUBSURFACE CONDITIONS AND LOCATION OF STRUCTURE. CONTRACTOR SHALL ADJUST EXCAVATION LIMITS AS NECESSARY TO COMPLETE CONSTRUCTION.
- 2. EXTENTS OF BACKFILL SHOWN ARE APPROXIMATE AND WILL VARY FOR EACH LOG STRUCTURE.
- 3. SEE LOG SCHEDULE FOR DIMENSIONS AND NUMBERS OF EACH LOG TYPE.
- 4. SEE SHEET GN8 FOR CONTROL POINT COORDINATES.



ONE INCH

AT FULL SCALE
IF NOT ONE INCH
SCALE ACCORDINGLY

Know what's below.

VERTICAL: NAVD 1988 HORIZONTAL: NAD 1983/1991 Know what's below.

Call before you dig.



King County
Department of Natural Resources and Parks
Water and Land Resources Division
River and Floodplain Management Section

Christie True, Director

JAN ROAD LEVEE SETBACK PROJECT

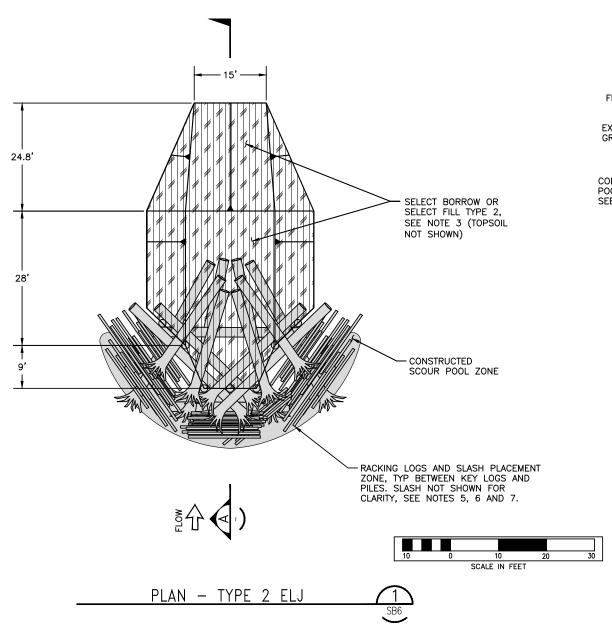
TYPE 1 ELJ DETAILS

SHEET **35**

SHEETS

EW1

53



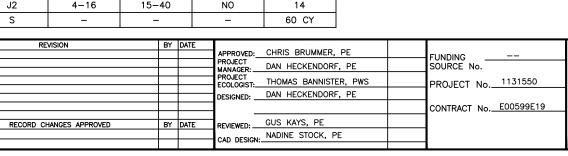
LOG SCHEDULE:

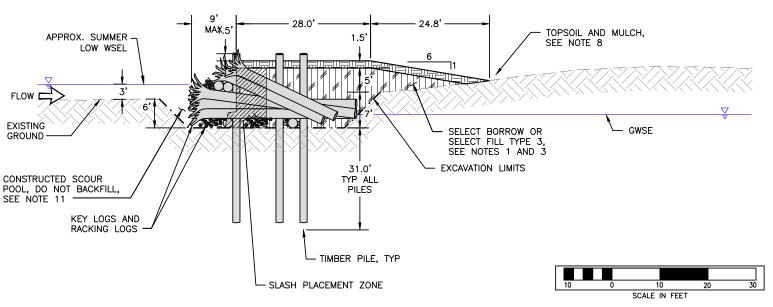
NUM.

LOG ID	DIA (IN)	LENGTH (FT)	ROOTWAD	TOTAL QTY PER ELJ	
(2)	18	35	NO	1	
L 1)	18	25	NO	3	
R1	18	35	YES	2	
@	18	30	YES	2	
R 3	24	35	YES	4	
R4	18	25	YES	4	
P1	18 (BUTT)	50	NO	7	
J1	4-16	15-40	YES	6	
J2	4-16	15-40	NO	14	
S	_	_	-	60 CY	

ESTIMATED CONSTRUCTION QUANTITIES:

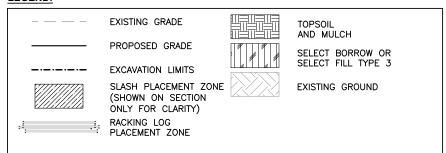
CONSTRUCTION ELEMENT	UNIT	ELJ 2-1	TOTAL
EXCAVATION	CY	366	366
HAUL AND DISPOSE UNSUITABLE MATERIAL	CY	0	0
FILL - SELECT BORROW OR SELECT FILL TYPE 2	CY	486	486
FILL - TOPSOIL	CY	112	112
FILL - MULCH	CY	19	19





SECTION - TYPE 2 ELJ

LEGEND:



GENERAL NOTES:

- 1. SEE SHEET EW4 FOR LOCATIONS OF ELJ CONTROL POINTS.
- 2. EXTENTS OF BACKFILL AT TOE OF FILL SHOWN ARE APPROXIMATE AND WILL VARY FOR EACH ELJ.
- 3. EXCAVATION LIMITS SHOWN ARE APPROXIMATE AND WILL VARY BASED ON CONSTRUCTION MEANS AND METHODS, SUBSURFACE CONDITIONS AND LOCATION OF STRUCTURE. ADJUST EXCAVATION LIMITS AS NECESSARY TO COMPLETE CONSTRUCTION. SOIL EXCAVATED DURING CONSTRUCTION SHALL BE REPLACED TO ORIGINAL GROUND FOLLOWING PLACEMENT OF ALL LOGS.
- 4. PLACE SELECT BORROW OR SELECT FILL TYPE 2 BETWEEN LOGS WITHIN INTERIOR CORE OF STRUCTURE AND OVER FINAL LAYER OF LOGS AND COMPACT AS DESCRIBED IN THE SPECIFICATIONS.
- 5. SEE LOG SCHEDULE FOR DIMENSIONS AND NUMBERS OF EACH LOG TYPE IN STRUCTURE.
- 6. PLACEMENT OF RACKING LOGS SHOWN IS APPROXIMATE. RACKING MATERIAL SHALL OCCUR WITHIN EACH LAYER TO ENSURE THAT RACKING MATERIAL EXTENDS THROUGH THE STRUCTURE AND IS PINNED BY SUBSEQUENT LAYERS. COORDINATE WITH THE PROJECT REPRESENTATIVE PRIOR TO PLACING RACKING LOGS, SLASH AND BACKFILLING.
- 7. KEY LOGS TO BE PLACED TO PIN RACKING MATERIAL IN PLACE AS DIRECTED BY THE PROJECT REPRESENTATIVE.
- 8. SEE ELJ LAYERING PLAN ON SHEETS EW3-EW4 FOR SLASH PLACEMENT. SLASH NOT SHOWN HERE FOR CLARITY. PLACE SLASH AS SHOWN ON LAYERING PLAN TO FILL VOIDS BETWEEN RACKING LOGS.
- 9. PLACE 18" OF TOPSOIL OVER SELECT BORROW OR SELECT FILL TYPE 2 BACKFILL MATERIAL, THEN CAP WITH 3" OF WOOD MULCH. SEE DWGS TS1-TS5 FOR TOPSOIL EXTENTS.
- 10. TRIM TOPS OF PILES FOLLOWING ELJ CONSTRUCTION AS DIRECTED BY THE PROJECT REPRESENTATIVE.
- 11. CHAIN LASHING FOR KEY LOGS TO PILES NOT SHOWN FOR CLARITY. SEE ELJ LAYERING PLAN ON SHEETS EW3—EW4 FOR LASHING LOCATIONS. SEE SHEET EW10 FOR CHAIN LASHING DETAILS.
- 12. SCOUR POOL TO BE EXCAVATED. EXCAVATED ALLUVIUM TO BE PLACED AS BACKFILL AS DIRECTED BY THE PROJECT REPRESENTATIVE. EXTENTS AND DIMENSIONS OF SCOUR POOL ARE APPROXIMATE AND TO BE ADJUSTED IN THE FIELD BY THE PROJECT REPRESENTATIVE.





Christie True, Director

River and Floodplain Management Section

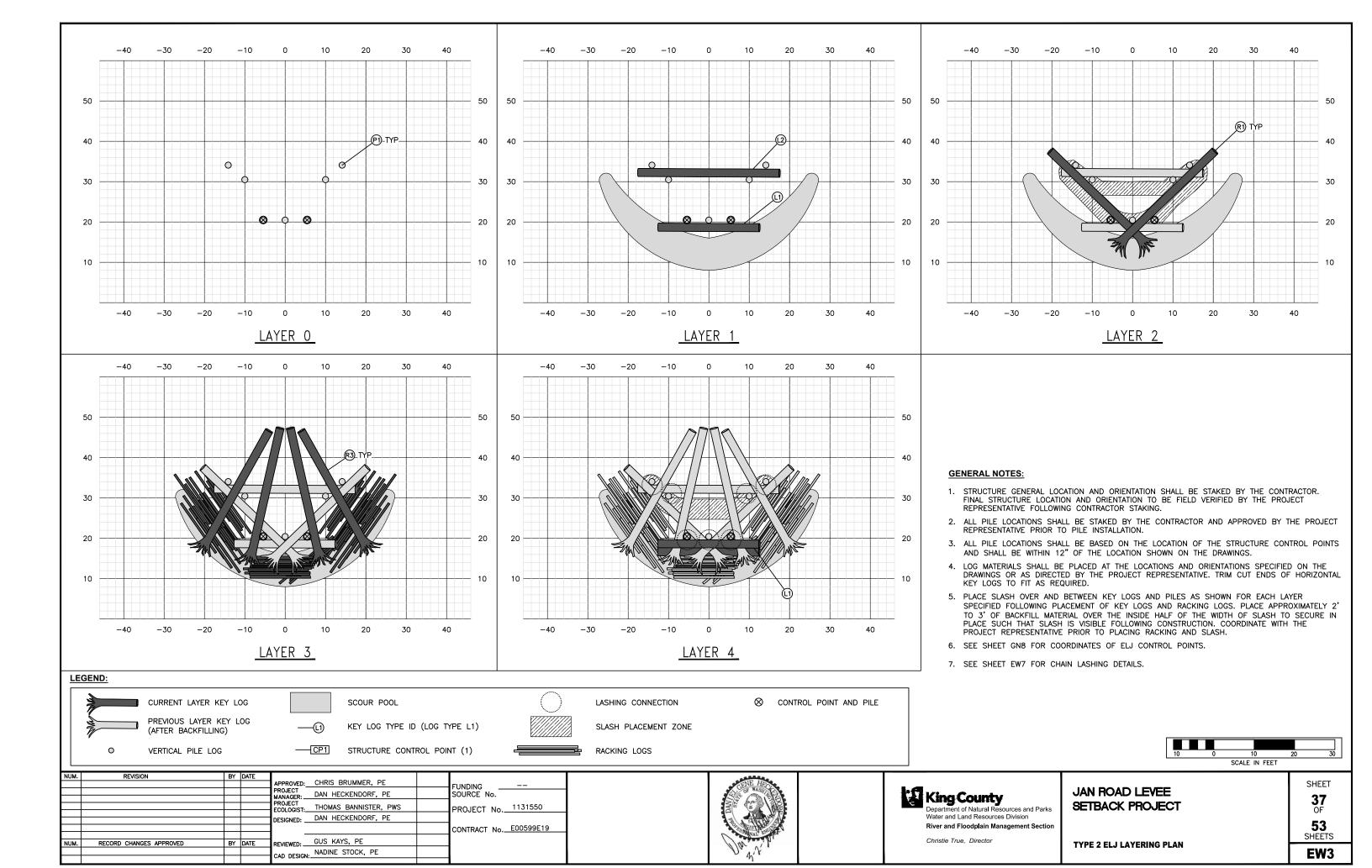
JAN ROAD LEVEE SETBACK PROJECT

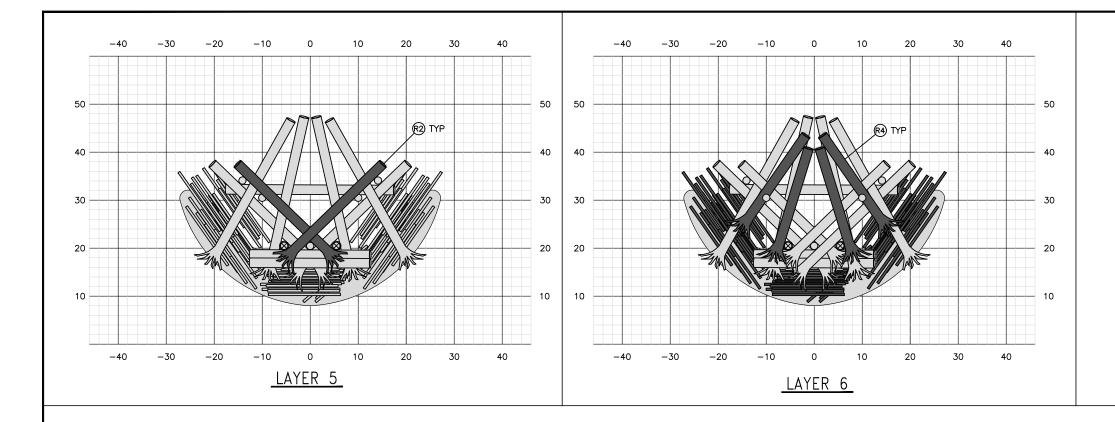
TYPE 2 ELJ PLAN AND SECTION

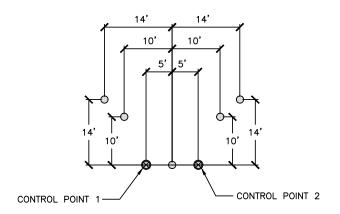
36 OF

AN AND SECTION

53 SHEETS EW2







POST DIMENSIONING PLAN

GENERAL NOTES:

- STRUCTURE GENERAL LOCATION AND ORIENTATION SHALL BE STAKED BY THE CONTRACTOR. FINAL STRUCTURE LOCATION AND ORIENTATION TO BE FIELD VERIFIED BY THE PROJECT REPRESENTATIVE FOLLOWING CONTRACTOR STAKING.
- 2. ALL PILE LOCATIONS SHALL BE STAKED BY THE CONTRACTOR AND APPROVED BY THE PROJECT REPRESENTATIVE PRIOR TO PILE INSTALLATION.
- 3. ALL PILE LOCATIONS SHALL BE BASED ON THE LOCATION OF THE STRUCTURE CONTROL POINTS AND SHALL BE WITHIN 12" OF THE LOCATION SHOWN ON THE DRAWINGS.
- 4. LOG MATERIALS SHALL BE PLACED AT THE LOCATIONS AND ORIENTATIONS SPECIFIED ON THE DRAWINGS OR AS DIRECTED BY THE PROJECT REPRESENTATIVE. TRIM CUT ENDS OF HORIZONTAL KEY LOGS TO FIT AS REQUIRED.
- 5. PLACE SLASH OVER AND BETWEEN KEY LOGS AND PILES AS SHOWN FOR EACH LAYER SPECIFIED FOLLOWING PLACEMENT OF KEY LOGS AND RACKING LOGS. PLACE APPROXIMATELY 2' TO 3' OF BACKFILL MATERIAL OVER THE INSIDE HALF OF THE WIDTH OF SLASH TO SECURE IN PLACE SUCH THAT SLASH IS VISIBLE FOLLOWING CONSTRUCTION. COORDINATE WITH THE PROJECT REPRESENTATIVE PRIOR TO PLACING RACKING AND SLASH.
- 6. SEE SHEET GN8 FOR COORDINATES OF ELJ CONTROL POINTS.
- 7. SEE SHEET EW7 FOR CHAIN LASHING DETAILS.

	CURRENT LAYER KEY LOG		SCOUR POOL	LASHING CONNECTION	\otimes	CONTROL POINT AND PILE
	PREVIOUS LAYER KEY LOG (AFTER BACKFILLING)	<u>—(i)</u>	KEY LOG TYPE ID (LOG TYPE L1)	SLASH PLACEMENT ZONE		
0	VERTICAL PILE LOG	—_CP1	STRUCTURE CONTROL POINT (1)	RACKING LOGS		



NOM.	KEVISION	101	DAIL			
				APPROVED:_	CHRIS BRUMMER, PE	FUNDING
				PROJECT MANAGER:	DAN HECKENDORF, PE	SOURCE No.
				PROJECT ECOLOGIST:	THOMAS BANNISTER, PWS	PROJECT No. 1131550
		 		DESIGNED:	DAN HECKENDORF, PE	
				_		CONTRACT No. E00599E19
NUM.	RECORD CHANGES APPROVED	BY	DATE	REVIEWED:	GUS KAYS, PE	
				CAD DESIGN:	NADINE STOCK, PE	
					·	

LEGEND:





Department of Natural Resources and Parks Water and Land Resources Division River and Floodplain Management Section

Christie True, Director

JAN ROAD LEVEE SETBACK PROJECT

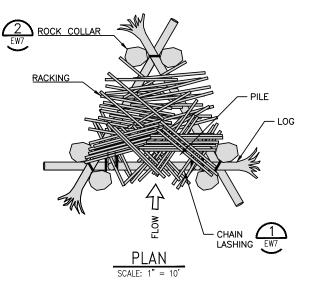
TYPE 2 ELJ LAYERING PLAN

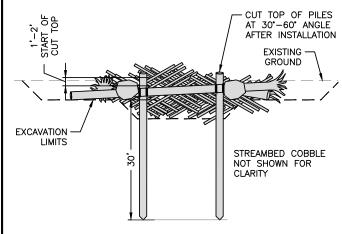
SHEET 38 OF

53

SHEETS EW4

STREAMBED COBBLE NOT SHOWN FOR







TYPE 3 ELJ VIEWS

TYPE 3 ELJ UNIT LOG SCHDULE:

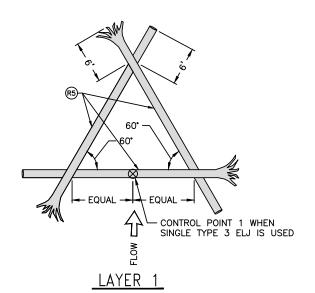
LOG ID	DIA (IN)	LENGTH (FT)	ROOTWAD	TOTAL QTY PER ELJ	NOTES
R5	20	40	Y	3	
@	16 (BUTT)	35	N	2	INSTALL AT 20 DEGREES FROM VERTICAL TIPPED UPSTREAM, SEE SHEET EW7 FOR DRIVEN TIMBER PILE DETAIL.
O)	4-8	30	N	30	

ESTIMATED CONSTRUCTION QUANTITIES:

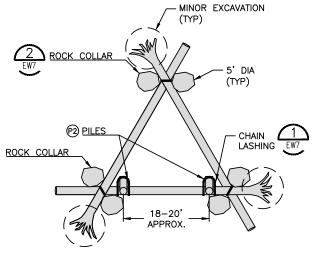
DESCRIPTION	UNIT				
		CSS-1	CSS-2	CSS-3	TOTAL
EXCAVATION	CY	1933	938	1137	4008
HAUL AND DISPOSE UNSUITABLE MATERIAL	CY	0	0	0	0
FILL — STREAMBED COBBLE	TN	1976	2239	2485	6700
FILL — STREAMBED SEDIMENT	TN	494	560	621	1795
FILL - SELECT BORROW OR SELECT FILL TYPE 2	CY	0	0	0	2531
STREAMBED BOULDERS	TN	259	324	356	1166

TYPE 3 ELJ STRUCTURE NOTES:

- 1. FOR PLACEMENT AND CONFIGURATION OF TYPE 3 ELJ UNITS SEE CHANNEL SPANNING STRUCTURE PLAN SHEETS. THE TYPE 3 ELJ UNIT TURNED OVER IS THE SAME ROOTWAD CONFIGURATION AS THE TYPE 3 ELJ UNIT BUT TURNED UPSIDE DOWN.
- 2. THE TOPS OF THE PILES ARE TO BE $1-2^{\prime}$ ABOVE ADJACENT LOG. PILES ARE TO BE DRIVEN. SEE SHEET EW7 FOR DRIVEN TIMBER PILE DETAIL.
- 3. COMPLETE EXCAVATION PRIOR TO INSTALLING TYPE 3 ELJ. TYPE 3 ELJ UNITS SHALL BE PLACED ON THE EXCAVATED SURFACE WITH ADDITIONAL MINOR EXCAVATION TO EMBED THE LOWER PORTIONS OF THE ROOTWADS AND RACKING INTO THE CHANNEL TO MINIMIZE GAPS BETWEEN THE CHANNEL AND LOG BOLE.
- 4. STREAMBED COBBLE SHALL BE PLACED IN INTERSTITIAL SPACES TO MINIMIZE VOIDS TO DESIGN DEPTH. STREAMBED COBBLE TO BE UP TO 3-FT DEEP AND 5-FEET UPSTREAM OF THE MOST UPSTREAM TYPE 3 ELJ UNIT TO CREATE A SMOOTH TRANSITION FROM THE EXISTING CHANNEL TO THE TOP OF THE LOG. DO NOT FULLY BURY LOGS. LOGS SHOULD BE VISIBLE/PROTRUDE FROM COBBLE. STREAMBED SEDIMENT SHALL BE INSTALLED CONCURRENTLY (UP TO 20% BY VOLUME) TO SEAL INSTERSTITIAL VOIDS.
- 5. PLACE STREAMBED SEDIMENT UPSTREAM OF EACH CHANNEL SPANNING STRUCTURE AS SHOWN ON SHEETS EW9 AND EW10. PLACE STREAMBED SEDIMENT IN SIX INCH LIFTS MAXIMUM WITH EXCAVATOR BUCKET TAMPING COMPACTION.
- 6. AFTER FINAL LIFT IS PLACED, RECYCLE TEMPORARY EXCAVATION WATER THROUGH STREAMBED UPSTREAM OF LOG STRUCTURE AND THROUGH LOG STRUCTURE TO OBTAIN A HIGH DENSITY OF FILL AND OBSERVED SO THAT WATER FLOWS OVER THE TOP OF THE CONSTRUCTED STREAMBED (NOT SUBSURFACE) UPON COMPLETION TO THE SATISFACTION OF THE PROJECT REPRESENTATIVE.
- 7. IF WATER FLOWS SUBSURFACE, THE PROJECT REPRESENTATIVE MAY REQUIRE ADDITIONAL HAND WORKING OR WASHING OF STREAMBED SEDIMENT INTO VOID SPACES AT NO ADDITIONAL COST TO THE OWNER.

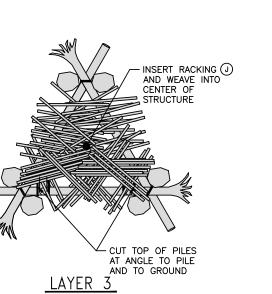


PLACE 3 ROOTWADS IN TRIANGULAR SHAPE

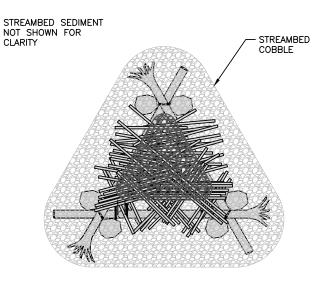


LAYER 2

DRIVE AND LASH PILES. INSTALL ROCK COLLARS.
EXCAVATE POCKET FOR ROCK TO SIT IN IF
NEEDED. ENSURE CHAIN IS TIGHT AROUND LOGS.



INSTALL RACKING, TUCKING UNDER AND OVER LOGS
AS SHOWN TO PLUG VOIDS UNDER LOGS.

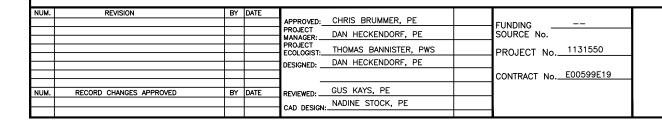


LAYER 4

INSTALL STREAMBED COBBLE APPROXIMATELY 3'
DEEP, TAMP WITH EXCAVATOR BUCKET TO
COMPACT. TOP WITH 6" OF STREAMBED
SEDIMENT.

TYPE 3 ELJ LAYERING PLANS

SCALE: AS NOTED







Water and Land Resources Division
River and Floodplain Management Section

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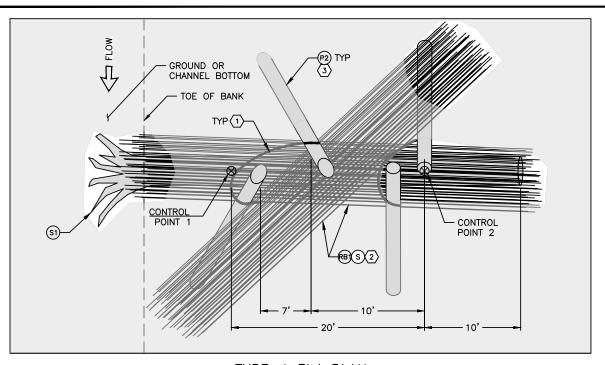
JAN ROAD LEVEE SETBACK PROJECT

TYPE 3 ELJ DETAILS

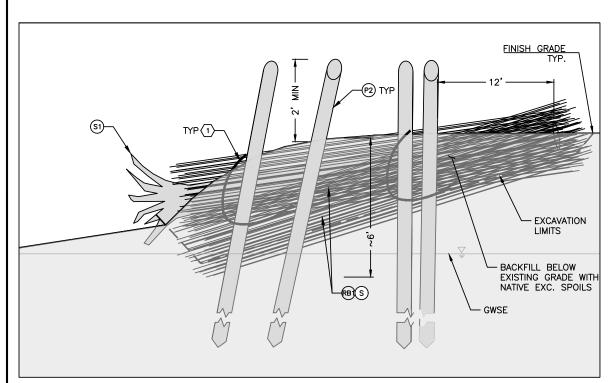
39

53 SHEETS

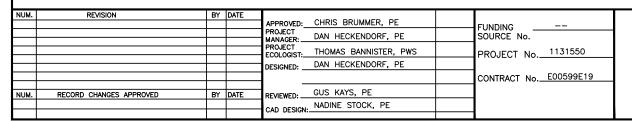
EW5



TYPE 4 ELJ PLAN SCALE: 1" = 5'



TYPE 4 ELJ PROFILE (SIDE VIEW)



TYPE 4 ELJ LOG SCHDULE:

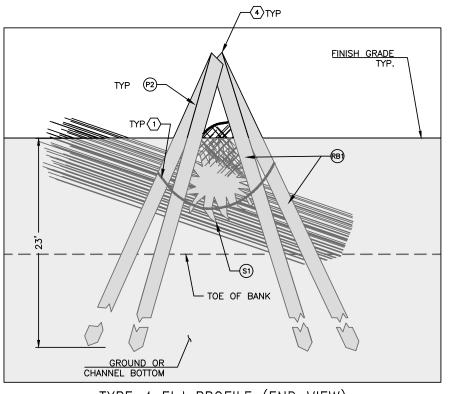
LOG ID	DIA (IN)	LENGTH (FT)	ROOTWAD	MAX WEIGHT (LBS)	QUANTITY PER STRUCTURE	NOTES
<u>\$1</u>	18–23	40	Y	_	1	
P2	16 (BUTT)	30-35	N	_	4	INSTALL AT 20 DEGREES FROM VERTICAL, SEE SHEET EW7 FOR DRIVEN TIMBER PILE DETAIL.
⊕	48	40	Y/N	8000	1	RACKING BUNDLE TO BE MADE UP OF MIN 10 PIECES OF J4 RACKING LOG AND MIN 6 PIECES OF J3 RACKING ROOTWAD LOG. SEE SHEET EW8 FOR RACKING BUNDLE DETAIL.
S	-	-	-	-	10 CY	SEE SPECS

KEY NOTES:

- (1) LOGS TO BE SECURED AT EACH CONNECTION WITH (3) WRAPS OF 1-1/2" MANILLA ROPE AND SECURED WITH (3) CABLE CLAMPS.
- (2) PLACE HALF OF RACKING AND SLASH IN EACH BUNDLE.
- (3) INSTALL AT 20° FROM VERTICAL.
- 4 AFTER INSTALLATION, CUT TOPS OF PILES AT 30'-60' ANGLE. CUT SHALL OCCUR 2 FT MIN ABOVE RACKING.

GENERAL NOTES:

- 1. EXCAVATION LIMITS SHOWN ARE APPROXIMATE AND WILL VARY BASED ON CONSTRUCTION MEANS AND METHODS, SUBSURFACE CONDITIONS AND LOCATION OF STRUCTURE. CONTRACTOR SHALL ADJUST EXCAVATION LIMITS AS NECESSARY TO COMPLETE CONSTRUCTION.
- 2. EXTENTS OF BACKFILL SHOWN ARE APPROXIMATE AND WILL VARY FOR EACH LOG STRUCTURE.
- 3. SEE LOG SCHEDULE FOR DIMENSIONS AND NUMBERS OF EACH LOG TYPE.
- 4. SEE SHEET GN8 FOR CONTROL POINT COORDINATES.



TYPE 4 ELJ PROFILE (END VIEW)

SCALE: 1" = 5'



ONE INCH

AT FULL SCALE
IF NOT ONE INCH
SCALE ACCORDINGLY

Know what's below.

VERTICAL: NAVD 1988 HORIZONTAL: NAD 1983/1991 Know what's below.

Call before you dig.





River and Floodplain Management Section

Christie True, Director

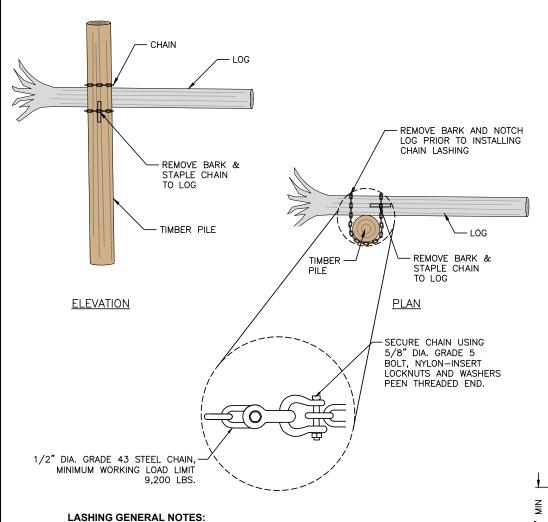
JAN ROAD LEVEE SETBACK PROJECT

TYPE 4 ELJ DETAILS

SHEET **40**

53 SHEETS

EW6



- LASH AS SHOWN OR AS DIRECTED BY THE PROJECT REPRESENTATIVE.
- CHAIN LENGTH WILL VARY DEPENDING ON LOG, AND PILE DIAMETERS, LOCATION, ALIGNMENTS AND CONDITIONS.

LOG TO PILE LASHING

- 1. NOTCH PILES 1" IN DEPTH AND REMOVE BARK, IF ANY, IN LOCATION TO BE LASHED.
- CONNECT END OF CHAIN WITH STAPLE.
- WRAP CHAIN IN A SADDLE LASH AS SHOWN OR AS DIRECTED BY THE PROJECT REPRESENTATIVE.
- 4. REMOVE SLACK.

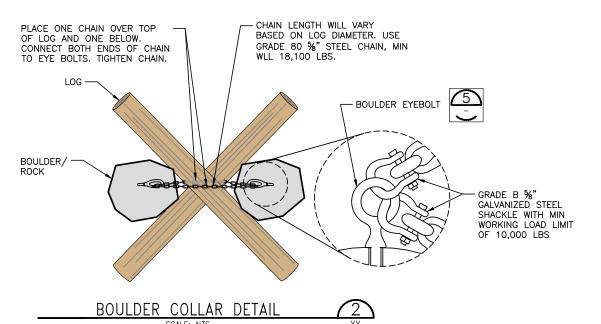
REVISION

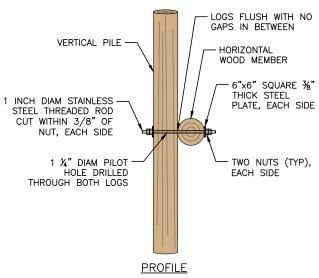
CONNECT THE CHAIN AS SHOWN ON THE CHAIN CONNECTION DETAIL. TIGHTEN CHAIN.





PPROVED: CHRIS BRUMMER, PE



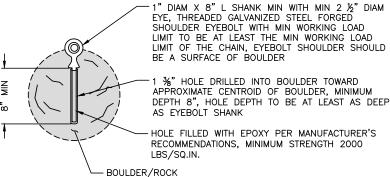


GENERAL NOTE:

ALL BARK SHALL BE REMOVED FROM BOTH LOGS AT THE CONNECTION POINT PRIOR TO INSTALLATION.

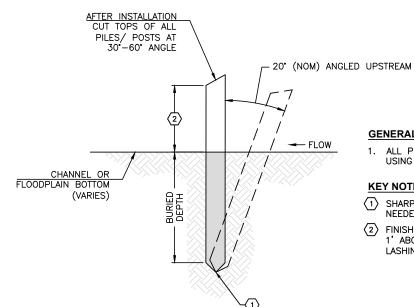
BOLTED CONNECTION DETAIL





GENERAL NOTES:

- 1. FOLLOWING EPOXY CURE, EACH ROCK COLLAR SHALL BE TESTED TO ENSURE PROPER BONDING.
- 2. THE DRILL HOLES MUST BE THOROUGHLY CLEANED OF ALL ROCK POWDER. THE RESIN WILL NOT PROPERLY ADHERE TO THE ROCK IF THE HOLE IS INADEQUATELY CLEANED. CLEANING IS DONE BY POURING WATER INTO THE HOLE WHILE PLUNGING IT WITH A CIRCULAR NYLON BRUSH. THE HOLE IS CLEAN WHEN THE WATER PLUNGES OUT CLEAR AND FREE OF SEDIMENT. HOLE SHALL BE DRY
- 3. THE EYEBOLT SURFACE TO BE BONDED SHOULD BE FREE OF DIRT AND GREASE.
- 4. THE HOLE MUST BE FILLED WITH RESIN SO THAT WHEN THE EYEBOLT IS INSERTED, A SMALL AMOUNT OF RESIN WILL OOZE OUT OF THE TOP OF THE HOLE. ONCE THE EYEBOLT IS INSERTED IN THE HOLE, IT SHOULD NOT BE DISTURBED UNTIL THE RESIN HAS CURED



GENERAL NOTES:

1. ALL PILES TO BE INSTALLED USING DRIVING METHODS.

KEY NOTES:

- 1 SHARPEN ENDS OF PILES AS NEEDED TO AID INSTALLATION.
- (2) FINISHED HEIGHT TO BE APPROX. 1' ABOVE ADJACENT LOG AT CHAIN LASHING.

SHEET

41

53

SHEETS

EW7

DRIVEN TIMBER PILE DETAIL



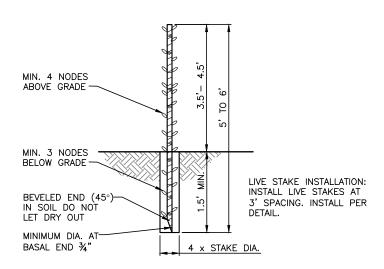
BOULDER EYEBOLT DETAIL

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JAN ROAD LEVEE

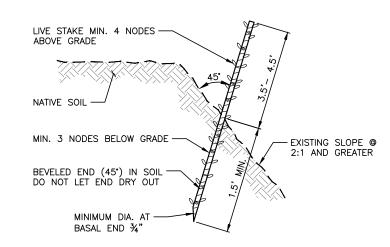
MANAGER: DAN HECKENDORF, PE SOURCE No. ECOLOGIST: THOMAS BANNISTER, PWS PROJECT No. 1131550 SETBACK PROJECT Department of Natural Resources and Parks DESIGNED: DAN HECKENDORF, PE Water and Land Resources Division River and Floodplain Management Section CONTRACT No. E00599E19 REVIEWED: GUS KAYS, PE Christie True, Director NUM. RECORD CHANGES APPROVED BY DATE **ELJ DETAILS** CAD DESIGN: NADINE STOCK, PE



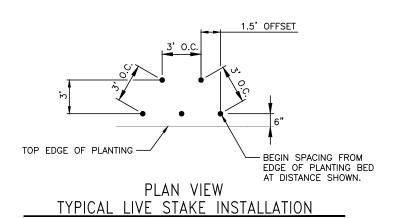
ELEVATION VIEW - HORIZONTAL GRADIENT TYPICAL LIVE STAKE INSTALLATION

GENERAL NOTES:

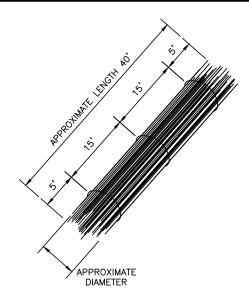
- 1. KEEP LIVE STAKES MOIST.
- 2. INSTALL LIVESTAKES IN GROWTH POSITION. IF BOTTOM END OF STAKE HAS DRIED OUT, CUT FRESH END PRIOR TO INSTALLING.
- 3. INSTALL LIVE STAKES WITH 36" ON CENTER SQUARE SPACING. OFFSET ALTERNATE ROWS 18" AS SHOWN ON PLANS VIEW DETAIL.
- 4. MINIMUM EMBEDMENT OF ALL STAKES IS 18".
- 5. INSTALL STAKES WITH MINIMUM OF 3 NODES BELOW GRADE AND MINIMUM OF 4 NODES ABOVE GRADE.
- 6. PILOT HOLE IN SUBGRADE WITH STEEL BAR OR SIMILAR. CAREFULLY PLANT STAKE IN PILOT HOLE WITHOUT BREAKING OFF LEAF NODES. BACKFILL HOLE AND TAMP TO FILL VOID SPACES.
- 7. IN GRAVELY OR COMPACTED SOILS, FORM HOLE WITH A BAR OR AUGER. CAREFULLY BACKFILL HOLE AND TAMP TO FILL VOID SPACES. DO NOT AUGER DEEPER THAN PLANTING DEPTH.



ELEVATION VIEW - SLOPE GRADIENT TYPICAL LIVE STAKE INSTALLATION

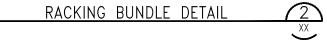


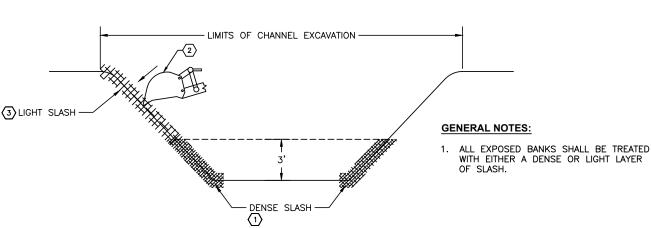




GENERAL NOTES:

- FOLLOWING BINDING BY 1.5 IN DIA MANILA ROPE WRAPPED TWICE AROUND AND SECURED WITH 2 CLAMPS AT MINIMUM 3 LOCATIONS EACH BUNDLE SHALL BE TESTED TO ENSURE ALL INDIVIDUAL PIECES ARE SECURE FOR TRANSPORT.
- MATERIAL FOR RACKING BUNDLE SHALL BE VARIABLE IN SIZE AND LENGTH TO CREATE COMPLEX ASSEMBLAGE. SEE SHEETS EW6 AND EW1 FOR RACKING LOG DIAMETER COUNTS.
- 3. APPROXIMATE RACKING BUNDLE DIAMETER SHOWN ON SHEETS EW6
- TOTAL WEIGHT OF RACKING BUNDLE SHALL NOT EXCEED VALUES PROVIDED ON SHEETS EW6 AND EW1.
- RACKING BUNDLE LENGTH MAY BE SHORTENED TO 35 FT TO REDUCE WEIGHT. ANY REDUCTION BELOW 35 FT LONG MUST BE APPROVED BY PROJECT REPRESENTATIVE.
- 6. ALL RACKING BUNDLES TO BE WEIGHED AND FLAGGED WITH WEIGHT.





KEY NOTES:

- DENSE SLASH SHALL BE APPLIED TO THE BANK TOE AT 3' LOOSE DEPTH. ALL DENSE SLASH SHALL BE COMPACTED. SUGGESTED METHODS INCLUDE PRESSING WITH FLAT SIDE OF EXCAVATOR BUCKET OR UNDER TRACKED EQUIPMENT.
- (2) ALL SLASH SHALL BE PARTIALLY EMBEDDED IN THE SOIL. THE SUGGESTED METHOD IS TO REPEATEDLY INSERT THE TEETH OF THE BUCKET, DRIVING SLASH INTO THE SOIL.
- 3 LIGHT SLASH SHALL BE APPLIED TO UPPER BANK. SLASH SHALL BE COMPACTED USING A SUGGESTED METHOD OF PRESSING WITH THE FLAT SIDE OF A BUCKET.

SLASH BANK TREATMENT DETAI



ONE INCH AT FULL SCALE IF NOT ONE INCH SCALE ACCORDINGLY

Know what's below. Call before you dig.

REVISION PPROVED: CHRIS BRUMMER, PE PROJECT
MANAGER: DAN HECKENDORF, PE SOURCE No. ECOLOGIST: THOMAS BANNISTER, PWS PROJECT No. 1131550 DESIGNED: DAN HECKENDORF, PE CONTRACT No. E00599E19 REVIEWED: GUS KAYS, PE RECORD CHANGES APPROVED NUM. BY DATE CAD DESIGN: NADINE STOCK, PE





Department of Natural Resources and Parks Water and Land Resources Division River and Floodplain Management Section

Christie True, Director

JAN ROAD LEVEE

ELJ DETAILS

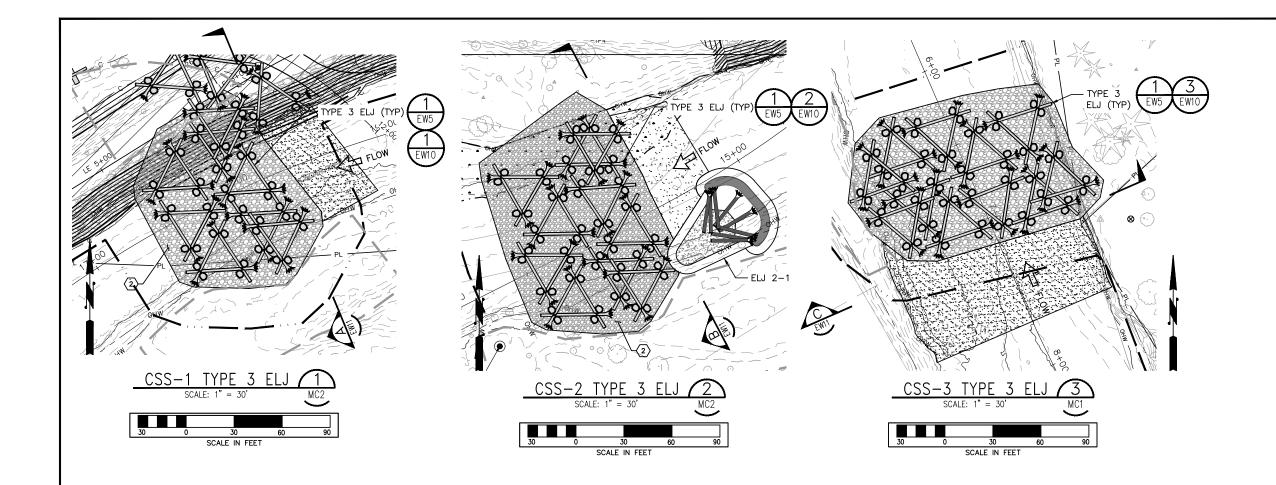
SETBACK PROJECT

53 SHEETS

EW8

SHEET

42



CHANNEL SPANNING STRUCTURE TYPE 3 ELJ NOTES:

- CONTROL POINTS FOR CHANNEL SPANNING STRUCTURES REPRESENT APPROXIMATE TOP OF STRUCTURE ELEVATIONS AND MAY BE ADJUSTED BY ENGINEER TO ACCOMMODATE SITE CONDITIONS AT TIME OF CONSTRUCTION.
- 2. PLACE STREAMBED SEDIMENT UPSTREAM OF CONSTRUCTED CHANNEL SPANNING STRUCTURE.



AT FULL SCALE
IF NOT ONE INCH
SCALE ACCORDINGLY

Know what's below.

VERTICAL: NAVD 1988 HORIZONTAL: NAD 1983/1991

Call before you dig.

NOM.	REVISION	ы	DAIL			
				APPROVED:	CHRIS BRUMMER, PE	FUNDING
				PROJECT MANAGER:	DAN HECKENDORF, PE	SOURCE No.
				PROJECT		
				ECOLOGIST:	THOMAS BANNISTER, PWS	PROJECT No. 1131550
		-		DESIGNED:	DAN HECKENDORF, PE	
				1		CONTRACT No. E00599E19
				_		
NUM.	RECORD CHANGES APPROVED	BY	DATE	REVIEWED:	GUS KAYS, PE	
				CAD DESIGN:_	NADINE STOCK, PE	
				CAD DESIGN:		





River and Floodplain Management Section

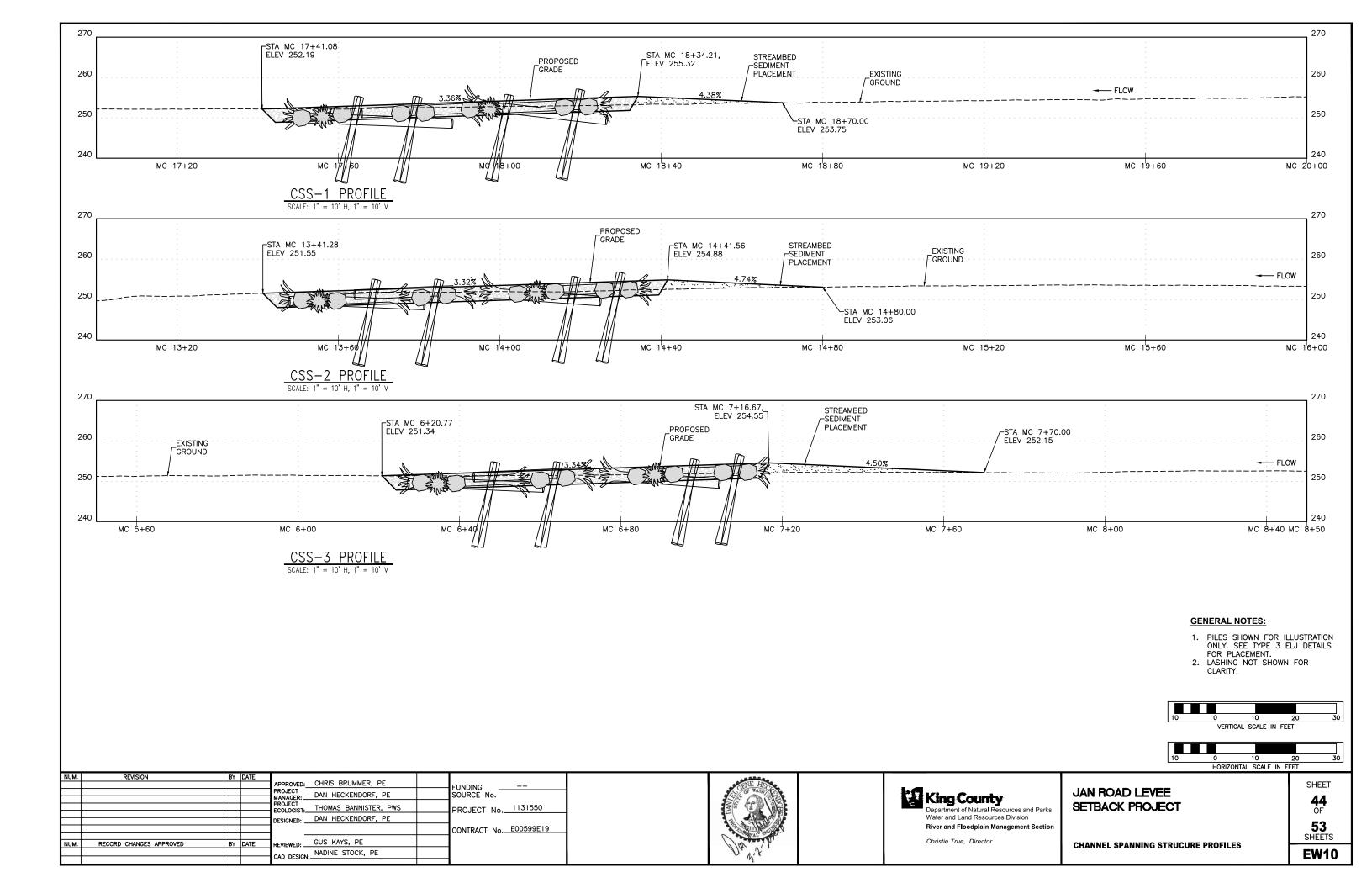
Christie True, Director

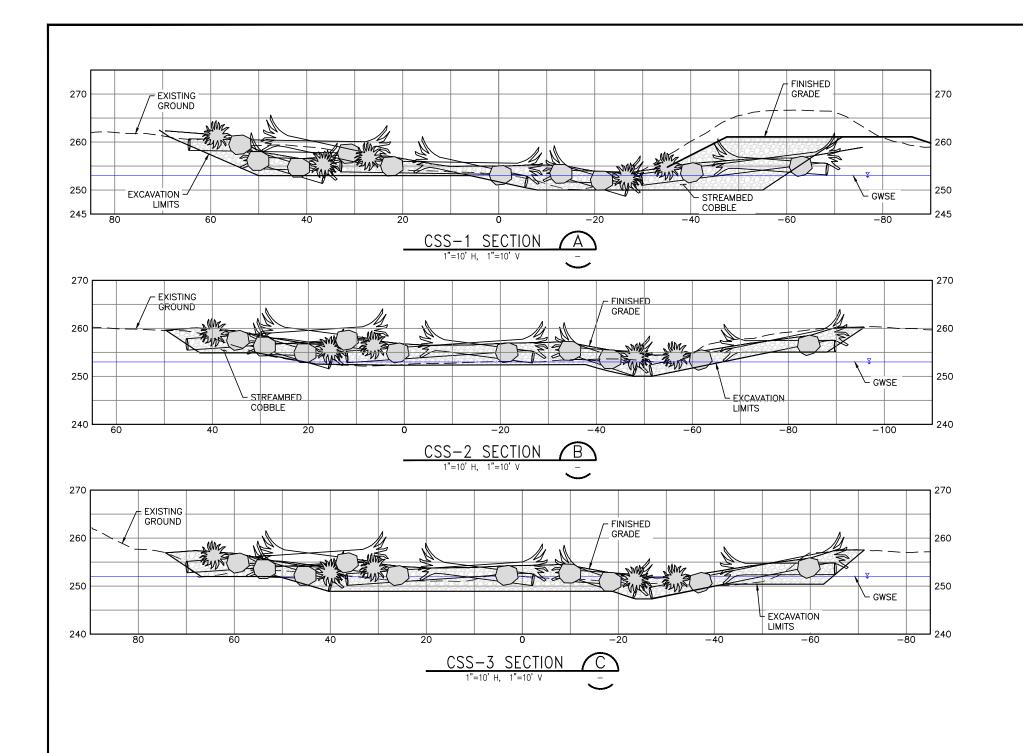
JAN ROAD LEVEE SETBACK PROJECT

CHANNEL SPANNING STRUCTURE PLANS

SHEET
43
OF
53
SHEETS

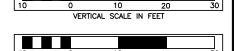
EW9





GENERAL NOTES:

- PILES NOT SHOWN FOR CLARITY.
 STREAMBED SEDIMENT NOT SHOWN FOR CLARITY.
- 3. LASHING NOT SHOWN FOR CLARITY.



10	0	10	20	30
	HORIZON	ITAL SCALE	IN FEET	-

NUM.	REVISION	BY	DATE			
				APPROVED:_	CHRIS BRUMMER, PE	FUNDING
				PROJECT MANAGER:	DAN HECKENDORF, PE	SOURCE No.
				PROJECT ECOLOGIST:	THOMAS BANNISTER, PWS	PROJECT No. 1131550
		-		DESIGNED: _	DAN HECKENDORF, PE	
				1 _		CONTRACT No. E00599E19
NUM.	RECORD CHANGES APPROVED	BY	DATE	REVIEWED:	GUS KAYS, PE	
				CAD DESIGN:	NADINE STOCK, PE	
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Water and Land Resources Division
River and Floodplain Management Section
Christie True, Director

JAN ROAD LEVEE
SETBACK PROJECT

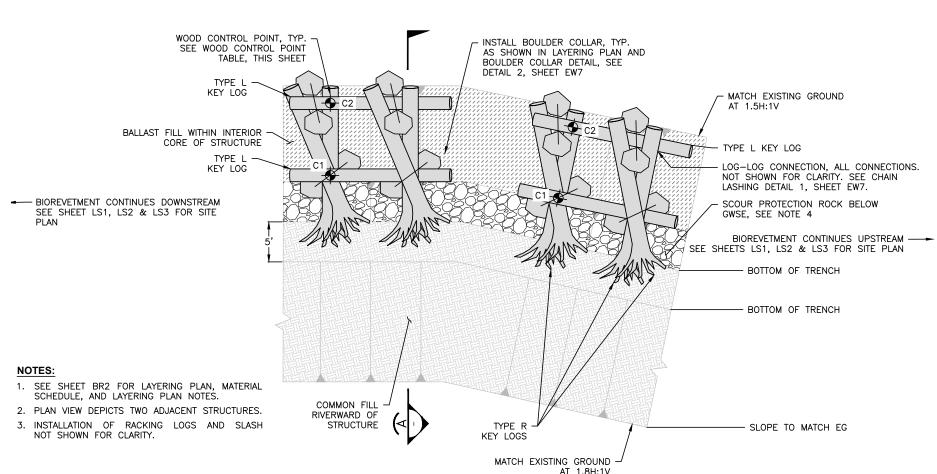
CHANNEL SPANNING STRUCURE SECTIONS

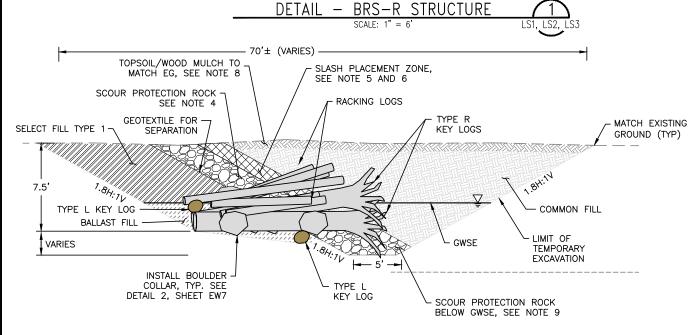
SHEET

45
OF

53
SHEETS

SHEETS EW11





SECTION — BRS—R STRUCTURE	A
SCALE: 1" = 6'	

NUM.	REVISION	BY	DATE		011010 0011111150 05		\Box
	1			APPROVED:_	CHRIS BRUMMER, PE	FUNDING	
		_		PROJECT MANAGER:	DAN HECKENDORF, PE	SOURCE No.	74
				PROJECT ECOLOGIST:	THOMAS BANNISTER, PWS	PROJECT No. 1131550	- 11
		+		DESIGNED:	JERRY SCHELLER, PE	11100201 1101	
					ALEX BUESCHER, PE	CONTRACT No. E00599E19	┛`
NUM.	RECORD CHANGES APPROVED	BY	DATE	REVIEWED:	SELENE FISHER, PE		
				CAD DESIGN:	NADINE STOCK, PE		
			1				





King County Department of Natural Resu

Department of Natural Resources and Parks Water and Land Resources Division River and Floodplain Management Section

Christie True, Director

JAN ROAD LEVEE SETBACK PROJECT

SHEET **46** OF

BRS-R PLAN AND SECTION

54 SHEETS BR1

GENERAL STRUCTURE NOTES:

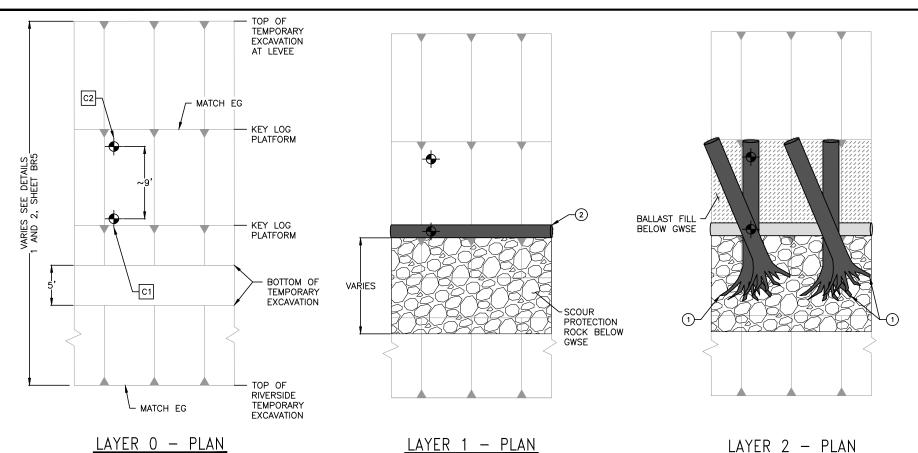
- 2. TRENCH DIMENSIONS SHOWN WILL VARY BY LOCATION, CONSTRUCTION MEANS AND METHODS, AND SUBSURFACE CONDITIONS. CONTRACTOR SHALL ADJUST DIMENSIONS AS NECESSARY TO COMPLETE INSTALLATION.
 - 3. BALLAST FILL AND COMMON FILL MATERIALS SHALL MEET THE REQUIREMENTS DEFINED IN SECTION 31 23 00 OF THE PROJECT SPECIFICATIONS AND APPROVED BY THE PROJECT REPRESENTATIVE BEFORE PLACEMENT.

1. ALL LOGS SHALL MEET THE REQUIREMENTS DEFINED FOR THE SPECIES, SIZE, AND QUALITY OF EACH CATEGORY OF

- 4. SCOUR PROTECTION ROCK SHALL BE RIPRAP CLASS IV AND PLACED ACCORDING TO THE REQUIREMENTS OF SECTION 35 43 00 OF THE PROJECT SPECIFICATIONS. SEE SHEET BR5 FOR SCOUR PROTECTION ROCK EXTENTS.
- 5. SLASH NOT SHOWN FOR CLARITY. INSTALL SLASH TO FILL VOIDS BETWEEN RACKING LOGS. SEE SHEET BR2 FOR SLASH PLACEMENT ZONE WITHIN THE LAYERING PLAN. WASH COMMON FILL INTO SLASH VOID SPACE TO ACHIEVE GREATER CONSOLIDATION OF FILL MATERIAL AND MINIMIZE VOID SPACE.
- 6. WASH COMMON FILL INTO ROCK AND WOOD ELEMENTS, INCLUDING BALLAST FILL, RACKING LOGS, AND SLASH TO CONSOLIDATE MATERIAL AND MINIMIZE VOID SPACE TO THE GREATEST EXTENT POSSIBLE.
- 7. SEE LAYERING PLAN AND NOTES ON SHEET BR2 FOR DIMENSIONS, PLACEMENT, AND ORIENTATION OF EACH CATEGORY OF LOG WITHIN THE STRUCTURE.
- 8. INSTALL TOPSOIL / WOOD MULCH TO MEET DEPTHS AND TOLERANCES REQUIRED BY SECTION 31 22 19 OF THE PROJECT SPECIFICATIONS. SEE SHEET BR5 FOR TOPSOIL AND WOOD MULCH THICKNESS.
- 9. GWSE SHOWN IN DRAWINGS IS THE AVERAGE LOW GROUNDWATER LEVEL (5 FEET BELOW EXISTING GROUND).
- 10. FINAL PLACEMENT OF WOOD TO BE APPROVED BY THE PROJECT REPRESENTATIVE.

WOOD INDICATED ON THIS SHEET AND SPECIFICATION 35 43 20.

BRS-R Structure Coordinate Table										
Structure ID	Northing	Easting		Structure ID	Northing	Easting		Structure ID	Northing	Easting
BRS-R-1-C1	158382.42	1338707.76		BRS-R-14-C1	157593.17	1339362.24		BRS-R-27-C1	157647.25	1339808.33
BRS-R-1-C2	158391.38	1338705.96		BRS-R-14-C2	157600.85	1339366.65		BRS-R-27-C2	157655.17	1339813.36
BRS-R-2-C1	158392.69	1338756.79		BRS-R-15-C1	157573.44	1339397.18		BRS-R-28-C1	157626.01	1339842.28
BRS-R-2-C2	158401.51	1338754.92		BRS-R-15-C2	157581.23	1339401.77		BRS-R-28-C2	157633.68	1339847.43
BRS-R-3-C1	158402.90	1338805.58		BRS-R-16-C1	157553.89	1339432.02		BRS-R-29-C1	157604.31	1339874.96
BRS-R-3-C2	158411.79	1338803.91		BRS-R-16-C2	157561.99	1339436.49		BRS-R-29-C2	157611.85	1339880.62
BRS-R-4-C1	158413.28	1338854.71		BRS-R-17-C1	157542.62	1339473.00		BRS-R-30-C1	157580.68	1339907.14
BRS-R-4-C2	158422.17	1338852.83		BRS-R-17-C2	157551.45	1339472.64		BRS-R-30-C2	157587.59	1339912.80
BRS-R-5-C1	158423.77	1338904.19		BRS-R-18-C1	157552.89	1339513.09		BRS-R-31-C1	157555.41	1339937.19
BRS-R-5-C2	158432.94	1338903.36		BRS-R-18-C2	157560.44	1339508.06		BRS-R-31-C2	157561.82	1339943.22
BRS-R-6-C1	157916.15	1339204.05		BRS-R-19-C1	157578.04	1339543.01		BRS-R-32-C1	157527.88	1339966.10
BRS-R-6-C2	157910.55	1339211.47		BRS-R-19-C2	157584.70	1339536.72		BRS-R-32-C2	157534.54	1339972.64
BRS-R-7-C1	157887.50	1339188.95		BRS-R-20-C1	157606.20	1339571.79		BRS-R-33-C1	157500.77	1339995.46
BRS-R-7-C2	157885.55	1339197.80		BRS-R-20-C2	157612.73	1339565.26		BRS-R-33-C2	157507.18	1340001.62
BRS-R-8-C1	157854.13	1339188.30		BRS-R-21-C1	157633.35	1339600.29		BRS-R-34-C1	157344.32	1340243.10
BRS-R-8-C2	157857.00	1339197.02		BRS-R-21-C2	157640.39	1339593.88		BRS-R-34-C2	157352.76	1340244.84
BRS-R-9-C1	157824.83	1339202.49		BRS-R-22-C1	157655.73	1339630.46		BRS-R-35-C1	157337.54	1340281.82
BRS-R-9-C2	157831.01	1339209.52		BRS-R-22-C2	157663.52	1339626.57		BRS-R-35-C2	157345.96	1340284.71
BRS-R-10-C1	157805.88	1339223.19		BRS-R-23-C1	157668.93	1339661.01		BRS-R-36-C1	157322.83	1340314.50
BRS-R-10-C2	157812.00	1339230.09		BRS-R-23-C2	157677.60	1339658.50		BRS-R-36-C2	157330.24	1340319.66
BRS-R-11-C1	157679.69	1339281.67		BRS-R-24-C1	157676.34	1339698.98		BRS-R-37-C1	157300.07	1340341.53
BRS-R-11-C2	157682.97	1339289.99		BRS-R-24-C2	157685.14	1339698.73		BRS-R-37-C2	157305.98	1340348.45
BRS-R-12-C1	157644.57	1339296.28		BRS-R-25-C1	157675.16	1339737.43		BRS-R-38-C1	157270.47	1340361.21
BRS-R-12-C2	157649.21	1339303.90		BRS-R-25-C2	157684.09	1339739.19		BRS-R-38-C2	157274.24	1340369.50
BRS-R-13-C1	157612.59	1339327.44		BRS-R-26-C1	157664.98	1339774.39				
BRS-R-13-C2	157620.77	1339332.01		BRS-R-26-C2	157673.78	1339777.91				

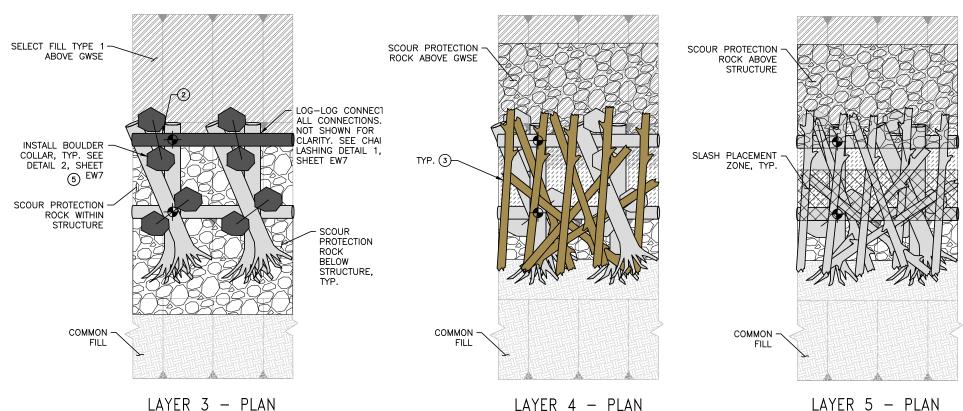


LAYERING PLAN NOTES:

- 1. SEE SHEET BR1 FOR COORDINATES OF WOOD CONTROL POINTS.
- 2. GENERAL LOCATION AND ORIENTATION OF STRUCTURE SHALL BE STAKED BY THE CONTRACTOR. FINAL STRUCTURE LOCATION AND ORIENTATION TO BE FIELD VERIFIED AND APPROVED BY THE PROJECT REPRESENTATIVE FOLLOWING CONTRACTOR STAKING
- 3. WOOD MATERIALS SHALL BE PLACED AT THE LOCATIONS AND ORIENTATIONS SHOWN IN CONSTRUCTION DRAWINGS OR AS DIRECTED BY THE PROJECT REPRESENTATIVE. TRIM ENDS OF LOGS TO FIT AS REQUIRED.
- 4. LOG LENGTHS PROVIDED ON DRAWINGS ARE MEASURED FROM THE TIP TO TIP.
- 5. SPACE LOGS TO PROVIDE A MINIMUM HORIZONTAL DISTANCE OF TWO TIMES THE D50 OF SCOUR PROTECTION ROCK TO ENSURE VOID SPACE IS LARGE ENOUGH TO FILL SCOUR PROTECTION ROCK BETWEEN LOGS.
- 6. FILL MATERIALS TO BE PLACED IN LIFTS AND MEET COMPACTION, MOISTURE, AND/OR DENSITY REQUIREMENTS FOR EACH FILL MATERIAL PROVIDED IN SECTION 31 23 00 OF THE PROJECT SPECIFICATIONS.
- 7. INSTALL RACKING LOGS ALONG UPSTREAM FACE OF STRUCTURE. RACKING LOGS SHALL BE ORIENTED BETWEEN PERPENDICULAR AND PARALLEL TO THE DIRECTION OF THE KEY LOGS. APPROXIMATELY 2/3 OF RACKING LOGS WILL EXTEND INTO SCOUR PROTECTION ROCK AND BALLAST FILL. APPROXIMATELY 1/3 WILL EXTEND INTO COMMON FILL. RACKING LOGS MAY BE INSTALLED ANGLED UP AND DOWN FROM HORIZONTAL (UP TO 15 DEGREES). INTENT OF PLACEMENT IS TO CREATE AN INTERLOCKING MATRIX WITH SLASH AND LARGER WOOD. LOCATION OF RACKING LOGS SHOWN ON THIS SHEET IS APPROXIMATE, COORDINATE WITH THE PROJECT REPRESENTATIVE FOR DIRECTION AND APPROVAL PRIOR TO INSTALLING RACKING LOGS, SLASH, AND BACKFILLING.
- 8. INSTALL SLASH OVER AND BETWEEN KEY LOGS AND RACKING LOGS AS SHOWN FOR LAYERS 5 AND 6 AND UP TO TOPSOIL. SECURE IN PLACE SUCH THAT SLASH FORMS AN INTERLOCKING MATRIX WITH RACKING LOGS, KEY LOGS, AND COMMON FILL.
- 9. WASH COMMON FILL INTO ROCK FACE AND WOOD ELEMENTS, INCLUDING RACKING LOGS AND SLASH, TO CONSOLIDATE MATERIAL AND MINIMIZE VOID SPACE TO THE GREATEST EXTENT POSSIBLE.

BIOREVETMENT STRUCTURE (BRS) MATERIAL SCHEDULE:

LOG TYPE ID	DESCRIPTION	DIA. (IN)	LENGTH (FT)	ROOTWAD	QTY PER STRUCTURE	TOTAL QTY
(-)	TYPE R KEY LOG	24±	20	YES	4	152
2	TYPE L KEY LOG	18±	20±	NO	2	76
3	RACKING LOG	8 - 10	20-30	OPTIONAL	20	760
4	SLASH	-	-		30 CY	1,140
5	BOULDER COLLAR				4	152



NOTES:

1. PLACE BACKFILL
MATERIALS UP TO
TOPSOIL AND MEET
THE FINISHED GRADE
REQUIREMENTS OF
SECTION 31 22 19.

SLASH
PLACEMENT ZONE,
4 TYP.

LAYER 5 - PLAN LAYER 6 - PLAN

NUM.	REVISION	BY	DATE	ı		I	Т
		+	1	APPROVED:_	CHRIS BRUMMER, PE	FUNDING	
				PROJECT MANAGER:	DAN HECKENDORF, PE	SOURCE No.	74
				PROJECT ECOLOGIST:	THOMAS BANNISTER, PWS	PROJECT No. 1131550	Ш
-		1		DESIGNED:	JERRY SCHELLER, PE	1,,,,,,,	11
					ALEX BUESCHER, PE	CONTRACT No. E00599E19	լ՝
NUM.	RECORD CHANGES APPROVED	BY	DATE	REVIEWED:	SELENE FISHER, PE		ı
				CAD DESIGN:	NADINE STOCK, PE		ı
				0.10			

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Water and Land Resources Division
River and Floodplain Management Section

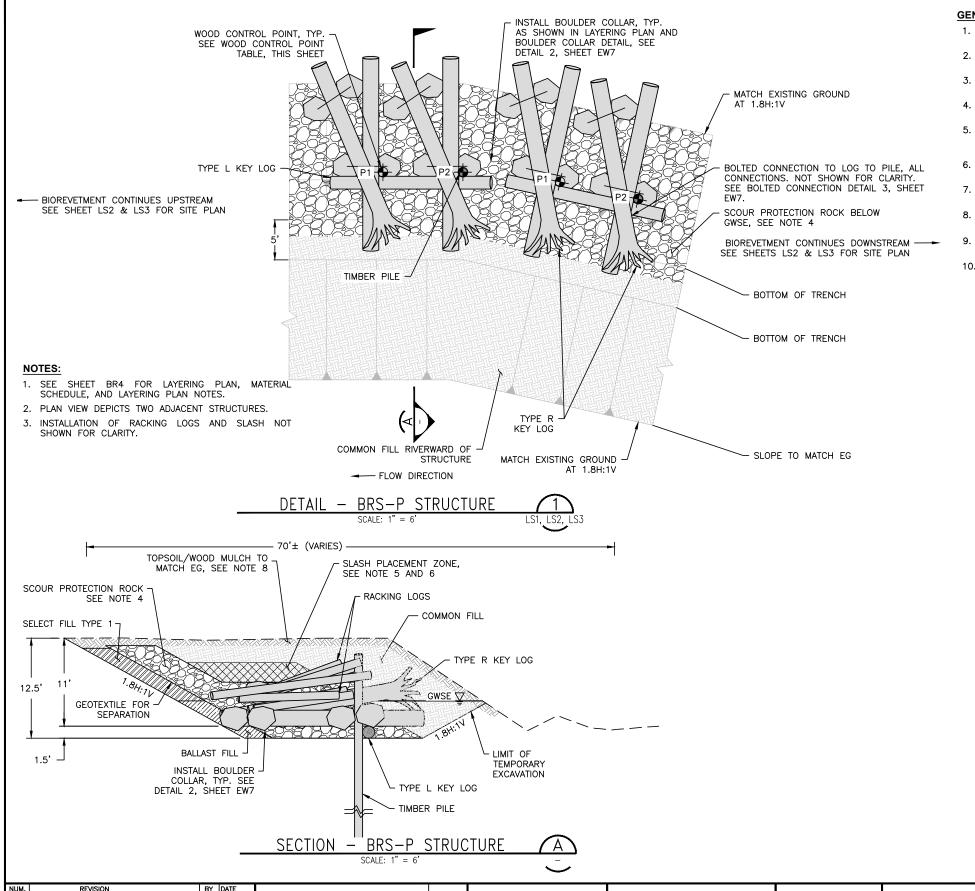
Christie True, Director

JAN ROAD LEVEE SETBACK PROJECT

BRS-R LAYERING PLAN

47 OF 54

SHEETS
BR2



GENERAL STRUCTURE NOTES:

- 1. ALL LOGS SHALL MEET THE REQUIREMENTS DEFINED FOR THE SPECIES, SIZE, AND QUALITY OF EACH CATEGORY OF WOOD INDICATED ON THIS SHEET AND SPECIFICATION 35 43 20.
- 2. TRENCH DIMENSIONS SHOWN WILL VARY BY LOCATION, CONSTRUCTION MEANS AND METHODS, AND SUBSURFACE CONDITIONS. CONTRACTOR SHALL ADJUST DIMENSIONS AS NECESSARY TO COMPLETE INSTALLATION.
- 3. BALLAST FILL AND COMMON FILL MATERIALS SHALL MEET THE REQUIREMENTS DEFINED IN SECTION 31 23 00 OF THE PROJECT SPECIFICATIONS AND APPROVED BY THE PROJECT REPRESENTATIVE BEFORE PLACEMENT.
- 4. SCOUR PROTECTION ROCK SHALL BE RIPRAP CLASS IV AND PLACED ACCORDING TO THE REQUIREMENTS OF SECTION 35 43 00 OF THE PROJECT SPECIFICATIONS. SEE SHEET BR5 FOR SCOUR PROTECTION ROCK EXTENTS.
- 5. SLASH NOT SHOWN FOR CLARITY. INSTALL SLASH TO FILL VOIDS BETWEEN RACKING LOGS. SEE SHEET BR2 FOR SLASH PLACEMENT ZONE WITHIN THE LAYERING PLAN. WASH COMMON FILL INTO SLASH VOID SPACE TO ACHIEVE GREATER CONSOLIDATION OF FILL MATERIAL AND MINIMIZE VOID SPACE.
- 6. WASH COMMON FILL INTO ROCK AND WOOD ELEMENTS, INCLUDING BALLAST FILL, RACKING LOGS, AND SLASH TO CONSOLIDATE MATERIAL AND MINIMIZE VOID SPACE TO THE GREATEST EXTENT POSSIBLE.
- 7. SEE LAYERING PLAN AND NOTES ON SHEET BR2 FOR DIMENSIONS, PLACEMENT, AND ORIENTATION OF EACH CATEGORY OF LOG WITHIN THE STRUCTURE.
- 8. INSTALL TOPSOIL / WOOD MULCH TO MEET DEPTHS AND TOLERANCES REQUIRED BY SECTION 31 22 19 OF THE PROJECT SPECIFICATIONS. SEE SHEET BR5 FOR TOPSOIL AND WOOD MULCH THICKNESS.
- 9. GWSE SHOWN IN DRAWINGS IS THE AVERAGE LOW GROUNDWATER LEVEL (6 FEET BELOW EXISTING GROUND). PLACEMENT OF MATERIALS ARE SHOWN RELATIVE TO THE GWSE SHOWN AND NOT TO ACTUAL FIELD CONDITIONS.

١.	FINAL	PLACEMENT	OF	WOOD	TO	RF	APPROVED	RY	THE	PROJECT	REPRESENTATIVE.	

BRS-P Stru	BRS-P Structure Coordinate Table								
Structure ID	Northing	Easting							
BRS-P-1-P1	157470.41	1340023.92							
BRS-P-1-P2	157463.37	1340031.21							
BRS-P-2-P1	157455.96	1340039.26							
BRS-P-2-P2	157449.04	1340046.42							
BRS-P-3-P1	157441.63	1340054.59							
BRS-P-3-P2	157434.71	1340061.76							
BRS-P-4-P1	157426.92	1340070.43							
BRS-P-4-P2	157420.25	1340077.98							
BRS-P-5-P1	157412.79	1340087.06							
BRS-P-5-P2	157406.75	1340095.11							
BRS-P-6-P1	157399.59	1340105.29							
BRS-P-6-P2	157394.18	1340113.46							
BRS-P-7-P1	157387.77	1340123.52							
BRS-P-7-P2	157382.62	1340132.32							
BRS-P-8-P1	157376.83	1340142.88							
BRS-P-8-P2	157372.18	1340151.81							
BRS-P-9-P1	157367.28	1340162.74							
BRS-P-9-P2	157363.26	1340171.79							
BRS-P-10-P1	157358.92	1340182.92							
BRS-P-10-P2	157355.53	1340192.22							
BRS-P-11-P1	157351.88	1340203.54							
BRS-P-11-P2	157349.11	1340212.97							
		· · · · · · · · · · · · · · · · · · ·							

BRS-P Structure Coordinate Table

NUM.	REVISION	BY	DATE				Г
				APPROVED:_	CHRIS BRUMMER, PE	FUNDING	ı
				PROJECT	DAN HECKENDORF, PE	SOURCE No.	ı,
				MANAGER:		1	ı
				PROJECT ECOLOGIST:_	THOMAS BANNISTER, PWS	PROJECT No. 1131550	ı
				DESIGNED:	JERRY SCHELLER, PE		ı.
					ALEX BUESCHER, PE	CONTRACT No. E00599E19	Г
					051515 50150 05	1	1
NUM.	RECORD CHANGES APPROVED	BY	DATE	REVIEWED:	SELENE FISHER, PE	1	1
				CAD DESIGN	NADINE STOCK, PE		ı
				CAD DESIGN	· · · · · · · · · · · · · · · · · · ·		L







Department of Natural Resources and Parks Water and Land Resources Division River and Floodplain Management Section

Christie True, Director

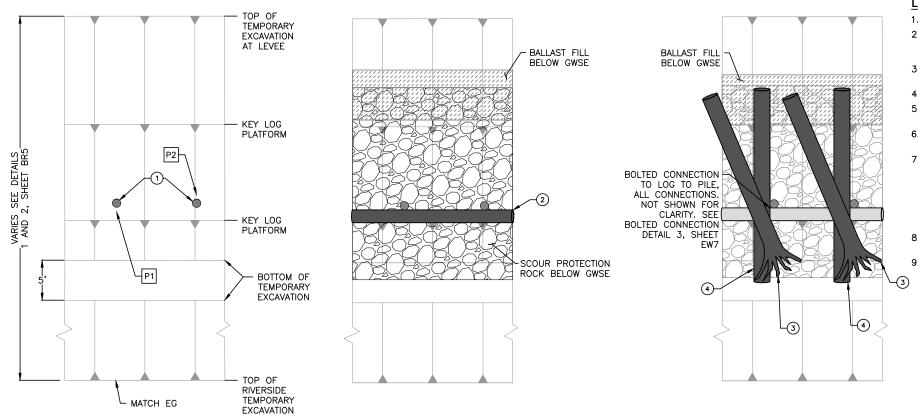
JAN ROAD LEVEE SETBACK PROJECT

BRS-P PLAN AND SECTION

54 SHEETS BR3

SHEET

48



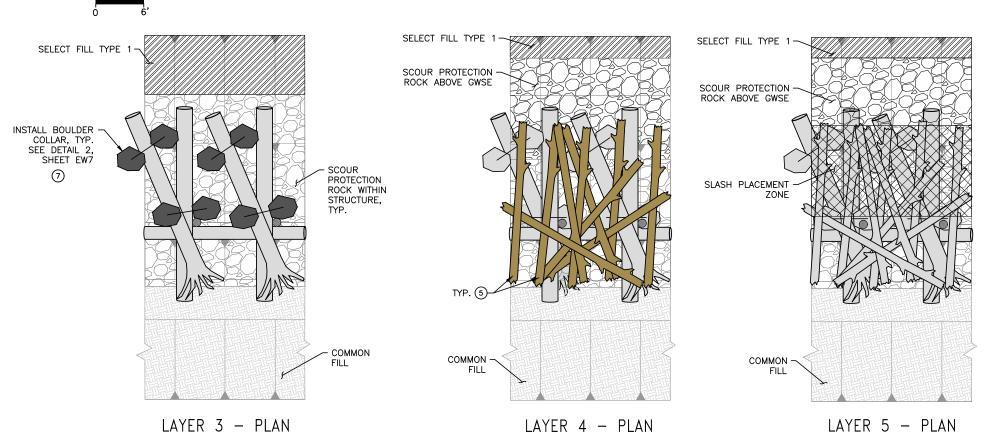
LAYER 1 - PLAN

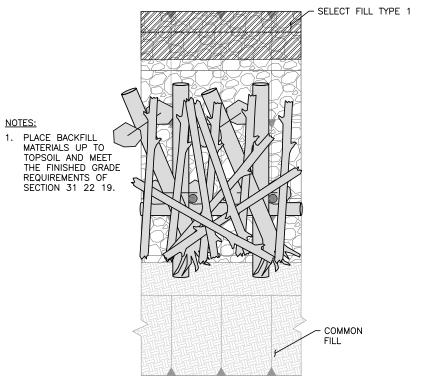
LAYERING PLAN NOTES:

- 1. SEE SHEET BR4 FOR COORDINATES OF WOOD CONTROL POINTS.
- 2. GENERAL LOCATION AND ORIENTATION OF STRUCTURE SHALL BE STAKED BY THE CONTRACTOR. FINAL STRUCTURE LOCATION AND ORIENTATION TO BE FIELD VERIFIED AND APPROVED BY THE PROJECT REPRESENTATIVE FOLLOWING CONTRACTOR STAKING
- 3. WOOD MATERIALS SHALL BE PLACED AT THE LOCATIONS AND ORIENTATIONS SHOWN IN CONSTRUCTION DRAWINGS OR AS DIRECTED BY THE PROJECT REPRESENTATIVE. TRIM ENDS OF LOGS TO FIT AS REQUIRED.
- 4. LOG LENGTHS PROVIDED ON DRAWINGS ARE MEASURED FROM THE TIP TO TIP.
 - . SPACE LOGS TO PROVIDE A MINIMUM HORIZONTAL DISTANCE OF TWO TIMES THE D50 OF SCOUR PROTECTION ROCK TO ENSURE VOID SPACE IS LARGE ENOUGH TO FILL SCOUR PROTECTION ROCK BETWEEN LOGS.
- 6. FILL MATERIALS TO BE PLACED IN LIFTS AND MEET COMPACTION, MOISTURE, AND/OR DENSITY REQUIREMENTS FOR EACH FILL MATERIAL PROVIDED IN SECTION 31 23 00 OF THE PROJECT SPECIFICATIONS.
- 7. INSTALL RACKING LOGS ALONG UPSTREAM FACE OF STRUCTURE. RACKING LOGS SHALL BE ORIENTED BETWEEN PERPENDICULAR AND PARALLEL TO THE DIRECTION OF THE KEY LOG. APPROXIMATELY 2/3 OF RACKING LOGS WILL EXTEND INTO SCOUR PROTECTION ROCK AND BALLAST FILL. APPROXIMATELY 1/3 WILL EXTEND INTO COMMON FILL. RACKING LOGS MAY BE INSTALLED ANGLED UP AND DOWN FROM HORIZONTAL (UP TO 15 DEGREES). INTENT OF PLACEMENT IS TO CREATE AN INTERLOCKING MATRIX WITH SLASH AND LARGER WOOD. LOCATION OF RACKING LOGS SHOWN ON THIS SHEET IS APPROXIMATE, COORDINATE WITH THE PROJECT REPRESENTATIVE FOR DIRECTION AND APPROVAL PRIOR TO INSTALLING RACKING LOGS, SLASH, AND BACKFILLING.
- 8. INSTALL SLASH OVER AND BETWEEN KEY LOGS AND RACKING LOGS AS SHOWN FOR LAYER 5 AND UP TO TOPSOIL. SECURE IN PLACE SUCH THAT SLASH FORMS AN INTERLOCKING MATRIX WITH RACKING LOGS, KEY LOGS, AND COMMON FILL.
- WASH COMMON FILL INTO ROCK FACE AND WOOD ELEMENTS, INCLUDING RACKING LOGS AND SLASH, TO CONSOLIDATE MATERIAL AND MINIMIZE VOID SPACE TO THE GREATEST EXTENT POSSIBLE.

BIOREVETMENT STRUCTURE WITH PILES (BRS-P) MATERIAL SCHEDULE:

LOG TYPE ID	DESCRIPTION	DIA. (IN)	LENGTH (FT)	ROOTWAD	QTY PER STRUCTURE	TOTAL QTY
1	TIMBER PILE	TAPER 18" – 14"	38'	NO	2	22
2	TYPE L KEY LOG	18±	20±	NO	1	11
3	TYPE R KEY LOG	24±	24	YES	2	22
4	TYPE L KEY LOG	24±	24	NO	2	22
5	RACKING LOG	8 - 10	20-30	OPTIONAL	20	220
6	SLASH				30 CY	330
7	BOULDER COLLAR				4	44





LAYER	6 –	PLAN
-------	-----	------

NUM.	REVISION	BY	DATE					П
				APPROVED:_	CHRIS BRUMMER, PE	FUNDING		ı
				PROJECT MANAGER:	DAN HECKENDORF, PE	SOURCE No.		11
				PROJECT ECOLOGIST:_	THOMAS BANNISTER, PWS	PROJECT No	1131550	Ш
\vdash		+		DESIGNED:	JERRY SCHELLER, PE			11
					ALEX BUESCHER, PE	CONTRACT No	E00599E19	1,
NUM.	RECORD CHANGES APPROVED	BY	DATE	REVIEWED:	SELENE FISHER, PE			l
				CAD DESIGN	NADINE STOCK, PE			ı
				OND DEGICIT				

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Seattle, Washington 95101
Phone: 206-883-9301



LAYER 2 - PLAN



Department of Natural Resources and Parks Water and Land Resources Division

River and Floodplain Management Section

Christie True, Director

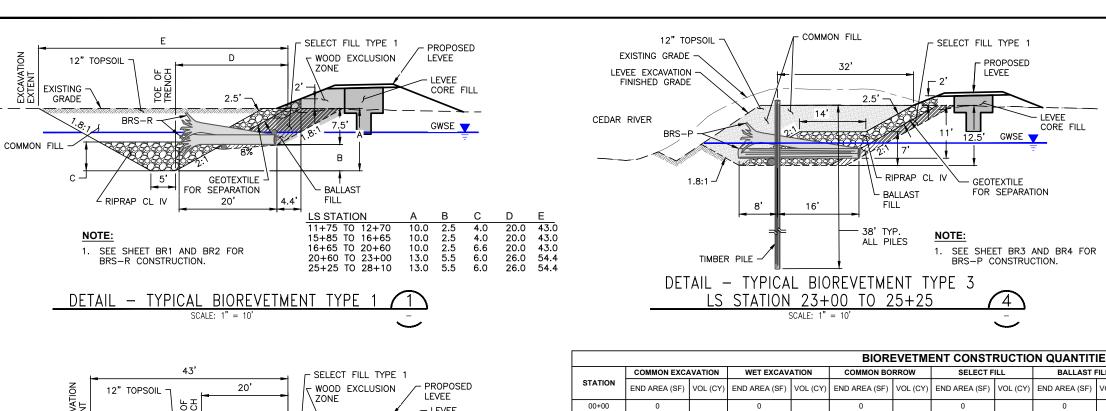
JAN ROAD LEVEE SETBACK PROJECT

BRS-P LAYERING PLAN

SHEET **49**OF **54**SHEETS

BR4

PLAN





AT FULL SCALE
IF NOT ONE INCH
SCALE ACCORDINGLY

ONE INCH

Know what's below.

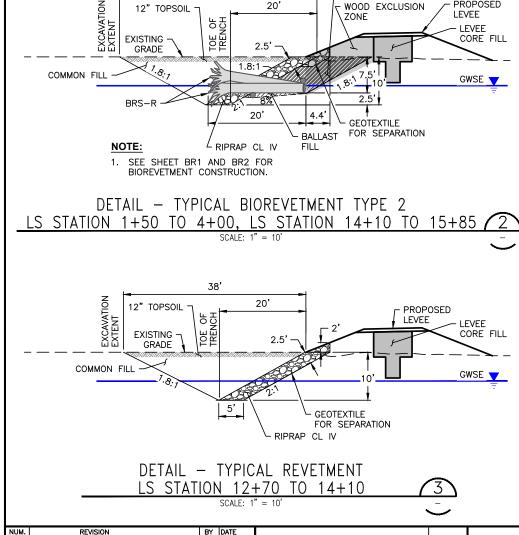
Call before you dig.

HORIZONTAL: NAD 1983/1991

GENERAL NOTES:

- PLACE LEVEE TOE ROCK SURFACING TO A HEIGHT OF 2' WATERWARD FROM LEVEE TOE, UP THE LEVEE SLOPE, TO A DEPTH OF 2.5' BELOW FINISHED GRADE.
- 2. SECURE GEOTEXTILE IN 1' DEEP x 1' WIDE ANCHOR TRENCH. PLACE FILL MATERIAL IN TRENCH OVER GEOTEXTILE.
- 3. DECOMPACT ALL AREAS RECEIVING TOPSOIL PLACEMENT IN ACCORDANCE WITH SECTION 31 22 19.
- 4. SEE SHEET BR5 FOR BIOREVETMENT QUANTITIES.

					BIUKI		ENI CONSI	RUCIIC	N QUANTIT	IES					
	COMMON EXCA	VATION	WET EXCAV	ATION	соммон во	RROW	SELECT F	ILL	BALLAST	FILL	F	RIPRAP		TOPSOI	L
STATION	END AREA (SF)	VOL (CY)	QTY (TN) @ 1.6 TN/CY	END AREA (SF)	VOL (CY										
00+00	0		0		0		0		0		0			0	
01+00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01+50	251	186	74	68	146	135	63	58	24	22	57	53	84	34	32
02+00	193	365	73	136	102	229	56	111	35	55	44	93	149	29	58
03+00	201	637	69	263	111	394	44	186	33	126	46	166	266	30	109
04+00	181	616	58	235	83	360	44	163	31	119	39	158	253	26	104
05+00	0	243	0	108	0	154	0	82	0	58	0	72	116	0	48
06+00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07+00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08+00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09+00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10+00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11+00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11+75	218	234	107	148	117	163	52	72	36	50	86	119	190	34	48
12+00	176	159	22	59	131	115	56	50	0	17	85	79	126	50	39
12+70	218	446	107	166	117	322	52	139	36	46	86	221	354	34	109
13+00	139	171	10	65	168	159	36	49	0	20	54	77	124	47	45
14+00	3	171	10	36	391	1,036	46	153	19	35	53	198	316	70	216
14+10	235	35	63	13	146	99	63	20	24	8	57	20	33	34	19
15+00	350	892	91	255	221	612	413	793	23	79	63	201	321	42	127
15+85	218	816	107	310	117	533	52	731	36	92	86	235	376	34	120
16+00	235	112	85	53	114	64	54	29	21	16	80	46	74	32	19
16+65	218	485	107	231	67	218	52	127	36	69	135	260	415	34	80
17+00	253	273	141	161	173	156	47	64	39	48	85	143	228	40	48
18+00	238	818	127	498	152	603	52	184	35	136	83	312	499	38	144
19+00	242	797	137	490	165	587	49	188	37	134	87	315	505	39	143
20+00	246	812	132	499	154	590	48	179	36	136	88	323	517	38	143
20+60	272	520	192	361	194	387	52	110	36	80	137	250	399	45	92
21+00	279	372	216	303	207	297	51	76	33	51	160	220	352	48	69
22+00	323	1,024	229	825	222	794	52	190	36	128	163	598	956	49	180
23+00	308	1,077	217	826	229	836	51	189	33	129	162	601	962	49	182
24+00	249	940	286	931	241	871	30	149	4	69	188	648	1,037	42	168
25+00	405	1,120	248	989	346	1,087	40	128	0	8	188	697	1,115	56	182
25+25	272	291	192	204	194	250	52	42	36	17	137	151	241	45	47
26+00	449	932	255	621	341	743	76	177	41	107	180	440	704	59	144
27+00	272	1,242	192	828	194	991	52	236	36	142	137	587	939	45	193
28+00	272	915	192	712	194	720	52	192	36	132	137	508	813	45	167
28+10	272	91	192	71	194	72	52	19	36	13	137	51	81		17
29+00	0	370	0	320	0	324	0	86	0	60	0	229	366	45	167
Total		17,161		10,784		13,901		4,973		2,201		8,069	12,910		3,256



APPROVED: CHRIS BRUMMER, PE

PROJECT
MANAGER: DAN HECKENDORF, PE

DESIGNED: JERRY SCHELLER, PE

REVIEWED: SELENE FISHER, PE

CAD DESIGN: NADINE STOCK, PE

BY DATE

RECORD CHANGES APPROVED

NUM.

ECOLOGIST: THOMAS BANNISTER, PWS

ALEX BUESCHER, PE

FUNDING

SOURCE No.

PROJECT No. 1131550

CONTRACT No. E00599E19







Department of Natural Resources and Parks Water and Land Resources Division River and Floodplain Management Section

Christie True, Director

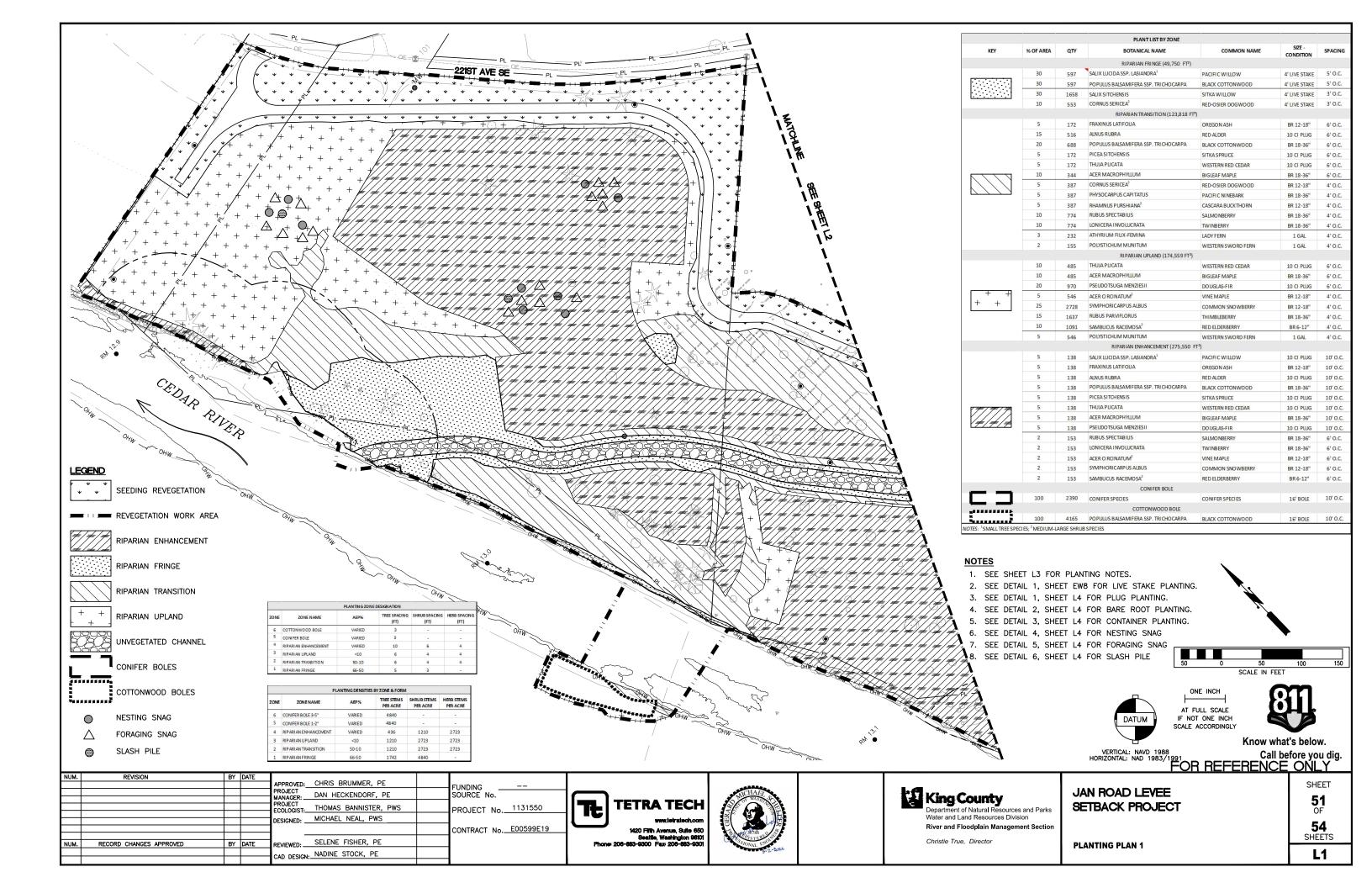
JAN ROAD LEVEE SETBACK PROJECT

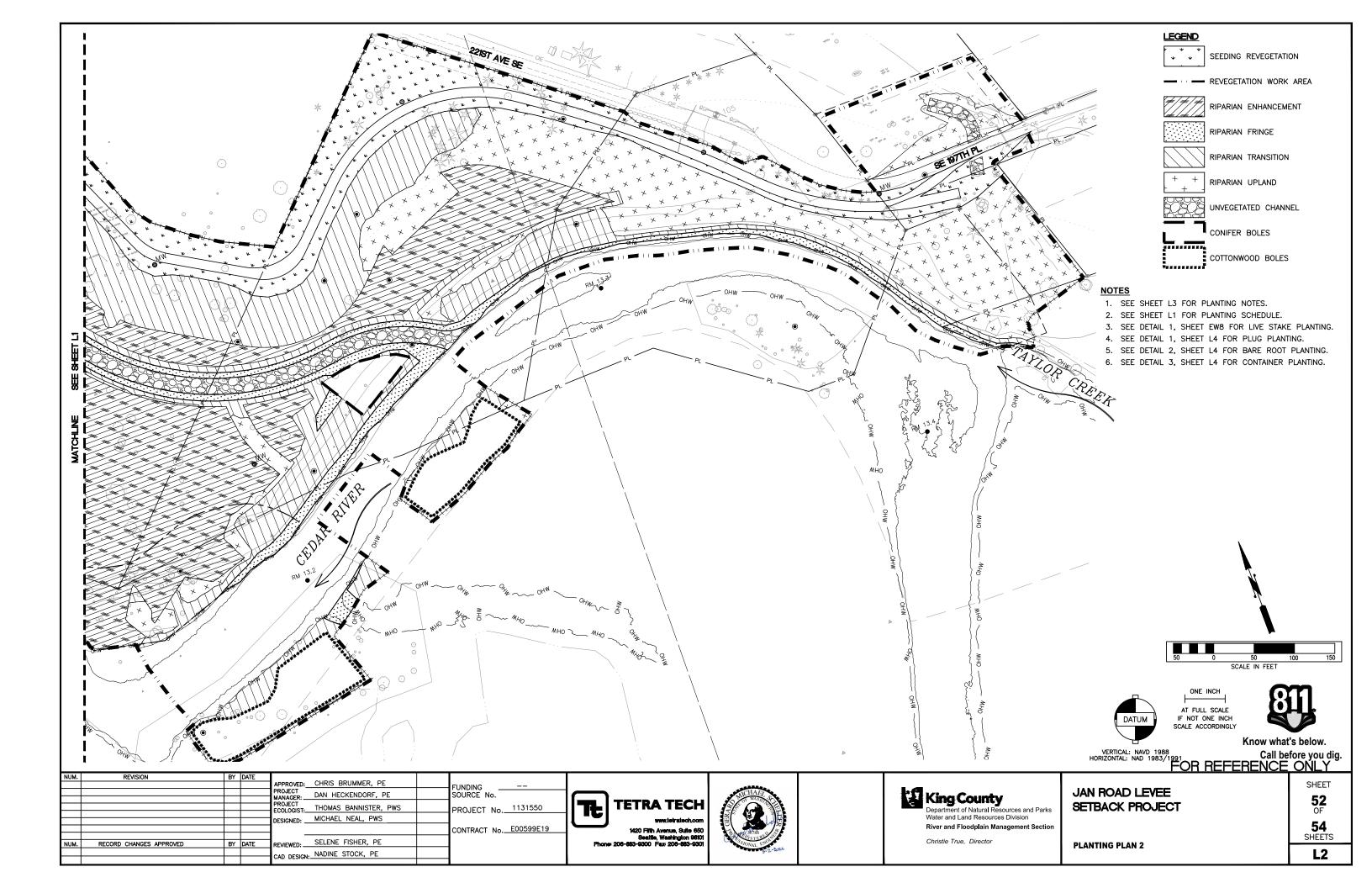
BIOREVETMENT SECTIONS

50 OF 54

SHEETS

BR5





CLEARING AND GRUBBING NOTES

- 1. LIMIT SOIL AND ESTABLISHED RIPARIAN VEGETATION DISTURBANCE TO THE GREATEST EXTENT PRACTICABLE WITHIN THE CLEARING AND GRUBBING LIMITS CONSISTENT WITH PROJECT OBJECTIVES AND CONTRACT DOCUMENTS.
- 2. REMOVE THE UPPER 8 INCHES OF SOIL IN AREAS WITH ESTABLISHED REED CANARYGRASS AND HIMALAYAN BLACKBERRY AND HANDLE THESE MATERIALS CONSISTENT WITH CONTRACT DOCUMENTS FOR NOXIOUS WEED REMOVAL AND DISPOSAL.
- REMOVE THE UPPER 24 INCHES OF SOIL IN AREAS WITH ESTABLISHED KNOTWEED SPECIES AND HANDLE THESE MATERIALS CONSISTENT WITH CONTRACT DOCUMENTS FOR NOXIOUS WEED REMOVAL AND DISPOSAL

HYDROSEEDING NOTES

- 1. SEEDING WINDOW FOR WESTERN WA IS SEPTEMBER 1 OCTOBER 1.
- 2. CONTRACTOR IS RESPONSIBLE FOR SECURING WATER SOURCE FOR HYDROSEEDING.
- 3. PERFORM SEED, MULCH, AND TACKIFIER TANK MIX ACCORDING TO CONTRACT SPECIFICATIONS, MANUFACTURER'S RECOMMENDATIONS, AND SELECTED HYDROSEEDING EQUIPMENT.
- 4. APPLY HYDROSEED SLURRY USING A TWO-STEP, OR LAYERING, PROCESS FINISHING WITH THE BFM BLANKET. APPLY SLURRY FROM MULTIPLE DIRECTIONS TO ENSURE 100% COVERAGE IS ACHIEVED. NO BARE SOIL SURFACES SHOULD BE VISIBLE.
- 5. AVOID AND MINIMIZE OVERSPRAY INTO SURFACE WATERS WHERE APPLICABLE.
- 6. AVOID DISTURBING HYDROSEEDED AREA(S) UNTIL SEEDING BEGINS TO ESTABLISH.

PLANTING NOTES

- 1. BARE ROOT MATERIALS MUST BE TRANSPORTED IN SEEDLING BAGS. PROTECT BARE ROOT AND CONTAINERIZED PLANT MATERIALS FROM DRYING OUT AND FREEZING.
- 2. SOAK THE PORTION OF LIVE STAKE AND POLE MATERIALS WHICH WILL HAVE SOIL CONTACT AT LEAST 48 HOURS ON-SITE PRIOR TO INSTALLATION.
- 3. INSTALL BARE ROOT PLANT MATERIALS WITHIN 48 HOURS OF DELIVERY OR TEMPORARILY 'HEEL-IN' BARE ROOT PLANTS IN A SECURE LOCATION IF MORE TIME IS NEEDED PRIOR TO
- 4. DO NOT J- OR L-ROOT BARE ROOT PLANTS AND 'HEEL IN' FIRMLY TO ENSURE NO AIR POCKETS REMAIN AND PLANT WILL NOT FLOAT AWAY UNDER INUNDATION. PROJECT REPRESENTATIVE MAY RANDOMLY INSPECT PLANTING QUALITY.
- 5. ENSURE LIVE STAKE BUDS ARE ORIENTED CORRECTLY, AND DO NOT DAMAGE STAKES BY DRIVING INTO SOIL WITH SLEDGE OR SIMILAR TOOL.
- 6. SITE REPRESENTATIVE WILL INSPECT PLANTING ZONE LAYOUT PRIOR TO INSTALLATION AND MAY DIRECT THE FINAL PLANTING LOCATIONS SUITABLE FOR SELECTED PLANT SPECIES AT THE TIME OF PLANTING IF NECESSARY.

SITE RESTORATION PLANTING SEQUENCE

- 1. ENSURE ALL AREAS FOR RESTORATION WORK HAVE BEEN SATISFACTORILY DECOMPACTED AND APPROVED BY THE PROJECT SITE REPRESENTATIVE.
- 2. APPLY WOODCHIP MULCH TO FINISH-GRADED AREAS WITHIN THE REVEGETATION WORK AREA TO A 3-INCH DEPTH, EXCLUDING THE SIDE CHANNEL, PER THE PLANTING PLAN IMMEDIATELY FOLLOWING PROJECT OR PHASE CONSTRUCTION AND PRIOR TO THE USUAL ONSET OF FALL
- 3. IN FROST-FREE CONDITIONS, INSTALL PLANTS, LIVE STAKES, AND POLES IN SAME SPECIES, SCATTERED GROUPINGS OF 3, 5, 7, 9 AND 11 SUCH THAT AVERAGE DENSITY IS EQUIVALENT TO GRID SPACING AND ACCORDING TO THE PLANTING SCHEDULE. TYPICAL ON CENTER (O.C.) GRID SPACING VARIES BY ZONE. DO NOT PLANT IN ROWS UNLESS OTHERWISE DIRECTED BY THE PROJECT SITE REPRESENTATIVE. INSTALL PLANT MATERIALS IN ACCORDANCE WITH PLANTING DETAILS FOR EACH STOCK TYPE (SEE SHEET L4).



ONE INCH AT FULL SCALE IF NOT ONE INCH SCALE ACCORDINGLY

Know what's below. Call before you dig. OR REFERENCE ONLY

REVISION PPROVED: CHRIS BRUMMER, PE FUNDING MANAGER: DAN HECKENDORF, PE SOURCE No. ECOLOGIST: THOMAS BANNISTER, PWS PROJECT No.___1131550 DESIGNED: MICHAEL NEAL, PWS CONTRACT No. E00599E19 REVIEWED: SELENE FISHER, PE RECORD CHANGES APPROVED NUM. BY DATE CAD DESIGN: NADINE STOCK, PE







Water and Land Resources Division River and Floodplain Management Section

Christie True, Director

JAN ROAD LEVEE SETBACK PROJECT

PLANTING NOTES

SHEET **53** 54

SHEETS L3

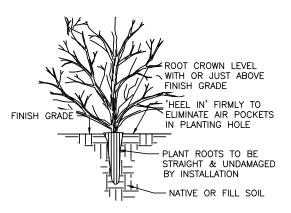
PLUG PLANTING NOTES:

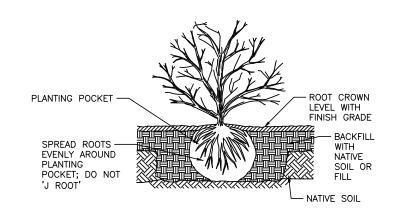
20' MIN.

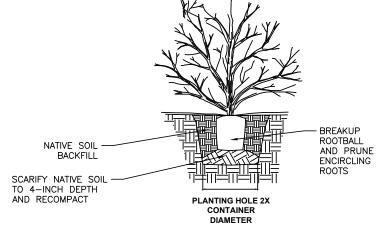
7' EMBEDMENT

MIN.

- 1. LEAVES & ROOT CROWN TO REMAIN UNDAMAGED DURING PLANTING
- 2. CREATE PLANTING HOLE BY DRIVING STEEL SPIKE OR
 DIBBLE INTO SOIL &
 WORKING SPIKE TO WIDEN
- 3. PLANT ONLY ONE PLUG PER PLANTING HOLE.













ROUGH-BROKEN TOP

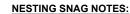
SNAG WITH >75% OF

- EXISTING GROUND

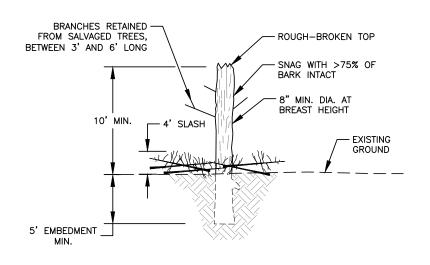
BARK INTACT

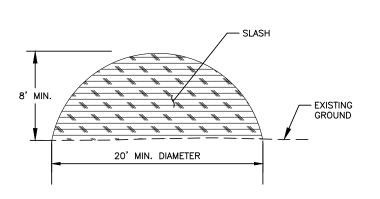
- 24" MIN. DIA. AT

BREAST HEIGHT



- SALVAGED TREES MEETING PROJECT SPECIFICATION REQUIREMENTS CAN BE USED FOR NESTING OR FORAGING SNAGS. OTHER IMPORT PER SECTION PROJECT SPECIFICATIONS.
- SLASH PILES TO BE MIN. 20-FT DIA. BY MIN. 8-FT HIGH.
- ADDITIONAL SLASH SHALL BE SCATTERED AROUND THE SNAG NO HIGHER THAN 4' EXTENDING WITHIN 10-FT RADIUS AROUND SNAGS.





NESTING SNAG DETAIL

4' SLASH

(TYP)

~10'

(SLASH TYP)

NESTING SNAG SCHEDULE										
MATERIAL	MIN. DBH (IN.)	MIN. LENGTH (LF)	QUANTITY (PER CLUSTER)	QUANTITY (TOTAL)						
CONIFER SNAG W OR W/O ROOTWADS	24	30	1	2						
DECIDUOUS SNAG W/ ROOTWADS	2	4								



	SNAG SCHEE	DULE		
MATERIAL	MIN. DBH (IN.)	MIN. LENGTH (LF)	QUANTITY (PER CLUSTER)	QUANTITY (TOTAL)
CONIFER SNAG W OR W/O ROOTWADS	8	15	2-3	7
DECIDUOUS SNAG W/ ROOTWADS	8	15	3	9





ONE INCH AT FULL SCALE IF NOT ONE INCH SCALE ACCORDINGLY

Know what's below.

VERTICAL: NAVD 1988 Call before you dig. HORIZONTAL: NAD 1983/1991 FOR REFERENCE ONLY

JAN ROAD LEVEE SETBACK PROJECT

LANDSCAPE DETAILS

NUM.	REVISION	BY	DATE					Г
				APPROVED:_	CHRIS BRUMMER, PE	FUNDING		
				PROJECT MANAGER:	DAN HECKENDORF, PE	SOURCE No.	\neg	1
				PROJECT	·			
				ECOLOGIST:_	THOMAS BANNISTER, PWS	PROJECT No. 1131550		
				DESIGNED:	MICHAEL NEAL, PWS			П
				DEGIONED: _	·	CONTRACT No. E00599E19	ı	
				1 –		CONTRACT NO	\neg	
NUM.	RECORD CHANGES APPROVED	BY	DATE	REVIEWED:	SELENE FISHER, PE			
				CAD DESIGN	NADINE STOCK, PE			i
				CAD DESIGN.				





4	King County
	Department of Natural Resources and Parks Water and Land Resources Division
	River and Floodplain Management Section

Christie True, Director

54 SHEETS L4

SHEET

54